



**The Vocational Students' Use of Vocabulary Learning Strategies and their
Vocabulary Knowledge**

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Master of Arts in Teaching English as an International Language**

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Thesis Title The Vocational Students' Use of Vocabulary Learning Strategies
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บทคัดย่อ

การวิจัยนี้มีวัตถุประสงค์เพื่อศึกษา 1) การใช้กลยุทธ์การเรียนรู้คำศัพท์ 2) ระดับคำศัพท์และ 3) ความสัมพันธ์ของการใช้กลยุทธ์การเรียนรู้คำศัพท์และระดับคำศัพท์ของนักศึกษาอาชีวศึกษา ระดับประกาศนียบัตรวิชาชีพชั้นสูงชั้นปีที่ 1 จำนวน 242 คน ใน 3 สาขาวิชาคือ สาขาวิชาวิศวกรรมศาสตร์ สาขาวิชาบัญชี และสาขาวิชาการโรงแรมและการท่องเที่ยวในวิทยาลัยอาชีวศึกษา 5 แห่งในจังหวัดกระบี่ ในภาคเรียนที่ 2 ของปีการศึกษา 2557 เครื่องมือที่ใช้ในการศึกษา คือ แบบสอบถามกลยุทธ์การเรียนรู้คำศัพท์ แบบทดสอบระดับความรู้คำศัพท์ และแบบสัมภาษณ์ กึ่งโครงสร้าง สถิติที่ใช้ในงานวิจัยนี้ ได้แก่ ค่าเฉลี่ย ค่าส่วนเบี่ยงเบนมาตรฐาน ค่าความแปรปรวน ค่าสัมประสิทธิ์สหสัมพันธ์แบบเพียร์สัน ผลการวิจัยพบว่า นักศึกษาใช้กลยุทธ์การเรียนรู้คำศัพท์ทั้งห้ารูปแบบ (กลวิธีการหาความหมายด้วยตัวเอง กลวิธีทางสังคม กลวิธีการจำ กลวิธีเชิงพุทธิปัญญา และกลวิธีพหุปัญญา) ที่ระดับความถี่บางครั้ง นักศึกษาใช้กลวิธีทางสังคมมากที่สุด นอกจากนี้การใช้กลยุทธ์การเรียนรู้คำศัพท์ 5 กลยุทธ์จากทั้งหมด 39 กลยุทธ์ของนักศึกษาทั้งสามสาขาวิชาแตกต่างกันอย่างมีนัยสำคัญทางสถิติ ผลจากแบบทดสอบระดับความรู้คำศัพท์แสดงให้เห็นว่า ค่าเฉลี่ยความรู้คำศัพท์ของนักศึกษาในระดับคำศัพท์ 1000 และ 2000 คำสูงกว่าค่าเฉลี่ยของความรู้คำศัพท์ในระดับ 3000 4000 และ 5000 คำ ในแง่ความสัมพันธ์พบว่า การใช้กลยุทธ์การเรียนรู้คำศัพท์ภาษาอังกฤษทั้งห้ารูปแบบมีความสัมพันธ์เชิงบวกกับระดับคำศัพท์ 1000 และ 2000 คำ ในระดับต่ำนอกจากนี้ยังพบความสัมพันธ์ระหว่างการใช้กลยุทธ์การเรียนรู้คำศัพท์และระดับความรู้คำศัพท์ของนักศึกษาทั้งสามสาขาวิชา ความรู้ด้านคำศัพท์ของนักศึกษาวิศวกรรมศาสตร์ที่ระดับ 2000 คำ มีความสัมพันธ์เชิงบวกกับกลวิธีเชิงพุทธิปัญญาและกลวิธีพหุปัญญาอย่างมีนัยสำคัญทางสถิติในระดับต่ำ นอกจากนั้น ความรู้คำศัพท์ของนักศึกษาการโรงแรมและการท่องเที่ยวที่ระดับ 1000 คำ สัมพันธ์เชิงบวกกับกลวิธีการหาความหมายด้วยตัวเอง กลวิธีการจำและกลวิธีพหุปัญญา

อย่างมีนัยสำคัญทางสถิติที่ระดับต่ำ อีกทั้งความรู้คำศัพท์ที่ระดับ 4000 คำ ยังมีความสัมพันธ์เชิงบวก กับกลวิธีการหาความหมายด้วยตัวเองและกลวิธีพหุปัญญาอย่างมีนัยสำคัญทางสถิติ ในทางตรงกันข้าม ไม่พบความสัมพันธ์ระหว่างความรู้คำศัพท์และกลวิธีการเรียนรู้คำศัพท์ในนักศึกษาบัญชี เพื่อเพิ่มระดับความรู้คำศัพท์ของนักศึกษา ครูควรแนะนำให้นักศึกษาใช้กลยุทธ์การเรียนรู้คำศัพท์ที่หลากหลาย

คำสำคัญ: กลยุทธ์การเรียนรู้คำศัพท์ นักศึกษาอาชีวศึกษา สาขาวิชา ระดับความรู้คำศัพท์

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ABSTRACT

The purposes of this study were 1) to identify the vocabulary learning strategies (VLSs) 2) to explore the vocabulary levels 3) to investigate the relationship between VLSs and vocabulary levels of 242 first year high vocational certificate students from three fields of study including engineering, accounting, and hotel and tourism in five government vocational colleges in Krabi province in the second semester of the academic year 2014. A VLSs questionnaire, a vocabulary level test, and a semi-structure interview were used as the instruments in this study. The statistics employed to analyze data in this study were mean scores, standard deviation, ANOVA, and Pearson's Correlation. The findings revealed that the students employed all five categories (*determination strategies, social strategies, memory strategies, cognitive strategies* and *metacognitive strategies*) at the frequency level of sometimes. *Social strategies* were ranked as the most frequently used. In addition, the use of five out of 39 VLSs was significantly different among the students from the three fields of study. The findings from the Vocabulary Level Test (VLT) showed that the students' average scores of 1000 and 2000-word level were higher than those of 3000, 4000 and 5000-word level. With regard to the relationships between VLSs used by participants and their vocabulary knowledge, there were weak significant correlations between all five strategies categories at the 1000 and 2000-word levels. In addition, the relationships between VLSs and vocabulary level of students in the three fields of study were explored. For the engineering students, it was reported that their 2000-word level knowledge was significant correlated with *cognitive* and *metacognitive strategies* at a very weak level. For the hotel and tourism students, it revealed that their 1000-word level knowledge was correlated with *determination, memory, and metacognitive strategies* at a weak level. Moreover, their 4000-word level knowledge was correlated

with *determination* and *metacognitive strategies* at a weak level. Conversely, the correlation between these two variables was not found among accounting students. In order to improve student's vocabulary knowledge, teachers might suggest students employ a wider range of VLSs.

Keywords: vocabulary learning strategies, vocational students, fields of study, vocabulary level

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Natcha Puagsang

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LIST OF PAPER

This thesis is based on the following paper:

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LETTER OF ACCEPTANCE

No. 0512.28/



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June 14, 2016

Dear Ms. Natcha Puagsang,

Thank you very much for choosing *Pasaa Paritat Journal* for your article entitled "Vocational Students' Use of Vocabulary Learning Strategies," as co-authored with Dr. Usa Intharaksa.

We find that your article is interesting, and it provides potential teaching implications for the field of second/foreign language education. We are therefore pleased to inform you that your article is accepted for publishing in our journal (Vol. 32: September 2016).

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Yours sincerely,

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Pramarn Subphadoongchone, Ph.D.
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1. Introduction

Vocabulary is an effective key that students use for learning languages (Cameron, 2001; Intaraprasert, 2004; O'Malley & Chamot, 1990; Schmitt, 1997; Takač, 2008). Knowing more vocabulary allows students to develop their language skills more proficiently (Meara, 1996). Wilkins (1972) mentioned, "without grammar very little can be conveyed, without vocabulary nothing can be conveyed" (p. 111-112). In addition, insufficient vocabulary knowledge will block the development of students' skills in reading, writing, listening and speaking (Alhaysony, 2012; Hu & Nation, 2000; Liu, 2011).

Vocabulary knowledge can be classified as receptive and productive knowledge (Laufer, 1989; Nation, 2006; Read, 2000; Schmitt, Jiang & Grabe, 2011). With regard to receptive vocabulary knowledge, it is a part of a person's productive vocabulary knowledge (Read, 2000). Nation (2001) regards the ability to understand lexical words in listening and reading as the receptive knowledge, whereas productive vocabulary knowledge used to produce the lexical words into writing and speaking skills. It can be said that receptive skills are related to the ability to listen and read meanwhile productive skills are related to speaking and writing ability.

To comprehend written text, learners have to know around 95% (Laufer, 1989) to 98% (Hu & Nation, 2000; Nation, 2006; Schmitt, Jiang & Grabe, 2011) of the texts they are reading. Approximately, 8,000 - 9,000 word families are adequate for comprehending written texts (Nation, 2006). Meanwhile, to understand spoken words, Nation (2006) suggests learners need to know 6,000 - 7,000 word families. The vocabulary knowledge of learners in both receptive and productive skills determine which foreign language tasks learners are able to perform (Gallego & Llach, 2009).

To improve vocabulary acquisition, Nation (2001) states that students need to apply effective vocabulary learning strategies. Vocabulary learning strategies (VLSs) are defined as "specific strategies utilized in the isolated task of learning vocabulary in the target language" (Takac, 2008, p. 52). Gu (2010) indicated that VLSs can be used as a tool by foreign language learners to help them decide how to learn and/or what to learn. Schmitt (1997) pointed out that many learners use strategies for learning vocabulary. The higher VLSs use may be a result of learners' awareness of the

importance of vocabulary. Nation (2001) asserted that, by using VLSs, students can acquire a large and rich vocabulary. Learners equipped with a range of VLSs can deal with new or unknown words much more efficiently than those with insufficient VLSs knowledge (Gu & Johnson, 1996).

As discussed above, VLSs and vocabulary knowledge play a critical role in language learning. Due to the importance of the VLSs, many studies on VLSs use have been conducted. Those studies have focused on students' use of VLSs at the high school level (Walum & Charumanee, 2014), the vocational level (Teng, 2015) and the university level (Asgari & Mustapha, 2011; Boonkongsaen & Intaraprasert, 2014; Kalajahi & Pourshahian, 2012; Komol & Sripetpun, 2011; Nirattisai & Chiramanee, 2014; Saengpakdeejit, 2014; Siriwan, 2007; Suppasetsee & Saitakham, 2008). The aforementioned studies revealed students' VLSs use, and the relationship between VLSs use and vocabulary knowledge. The results of those studies showed that students in each level used VLSs differently. The relationship between the VLSs use and vocabulary knowledge of high school students were negatively correlated, while the relationship between the VLSs use and vocabulary knowledge of vocational and university students were positively correlated.

Interestingly, one factor affecting VLSs use is students' fields of study (Boonkongsaen, 2012; Boonkongsaen & Intaraprasert, 2014; Siriwan, 2007). Some research explored a correlation between students' fields of study and their VLSs use (Bernardo & Gonzales, 2009; Boonkongsaen & Intaraprasert, 2014; Tsai & Chang, 2009; Siriwan, 2007; Wanpen, Sonkoontod & Nonkukhetkhong, 2013). The results of the studies showed that students' fields of study affected their use of VLSs.

Under the ASEAN Economic Community, students need to become more proficient in English so as to catch up with the international work opportunities in AEC labour market (Ngmsa-ard, 2015). Eight fields of professions which are allowed to work freely among ASEAN countries include medicine, nursing, dentistry, engineering, architecture, surveying, accounting, and hotel and tourism (International Labor Organization, 2013). In the ASEAN labor market the demand for skilled workforces from vocational education is increasing. However, students at the

vocational level need to improve their communication skills in English (The Government Public Relations Department, 2013).

To respond to the need for vocational expertise, the present study was conducted to explore the use of VLSs, vocabulary levels, and the relationships among these two variables. This study was limited to vocational students studying in three fields of professions under the AEC agreements: engineering, accounting, and hotel and tourism. The findings of the study would add to the literature on VLSs use and vocabulary knowledge. The findings could be beneficial to vocational students, teachers, and all parties responsible for teaching English. An understanding of the VLSs employed by vocational students might enable students to be aware of their VLSs use and vocabulary level. In addition, the findings might provide some guidelines for teachers in choosing teaching methods to help students increase their English vocabulary.

2. Purposes of the Study

The purposes of this study were to explore the receptive vocabulary level of vocational students in the three fields of study and their use of vocabulary learning strategies, as well as to investigate the relationships between vocabulary levels and vocabulary learning strategies employed by vocational students.

In order to achieve the purposes of the study, the research questions were framed as follows:

- 1) What vocabulary learning strategies do vocational students employ?
- 2) What are the vocabulary levels of vocational students?
- 3) What are the relationships between the use of vocabulary learning strategies and vocabulary levels of vocational students?

3. Definition of Terms

The key terms used in this study are as follows:

- 1) **Vocational Students** refers to first year high certificate level students who are studying engineering, accounting, and hotel and tourism in vocational colleges in Krabi province in the 2014 academic year.

2) **Vocabulary Learning Strategies** refers to five strategy categories of Schmitt's taxonomy (1997): *Determination strategies* (Strategies that helps learners gain knowledge of a new word), *memory strategies* (Relating the word with the learners' previous knowledge), *social strategies* (Interacting with others to find the meaning of words), *cognitive strategies* (Remember words which include repetition process) and *metacognitive strategies* (Strategies that learners used to control and evaluate their own learning).

3) **Vocabulary level** refers to number of words that a person knows (Nation, 2001). It can be classified as 1000-word level, 2000-word level, 3000-word level, 4000-word level, and 5000-word level (Nation, 2008).

4. Scope and Limitations of the Study

The current study was limited to students studying in the first year high certificate level of five vocational colleges in Krabi province. The fields of study are limited to three fields of eight professions: engineering, accounting, and hotel and tourism.

1) Engineering field includes students majoring in Mechanical Tool, Mechanical Technology, Electrical Power, Electronics Technology, and Information and Technology.

2) Accounting field includes students majoring in Accounting.

3) Hotel and Tourism field includes students majoring in Tourism and Hospitality.

5. Literature Review

5.1 Vocabulary Learning Strategies

Vocabulary learning strategies (VLSs) are defined as a set of actions, behaviors or techniques that learners use to help them find out the meaning of new or unknown words, to retain those words, and to use them in oral or written communication (Cameron, 2001; Intaraprasert, 2004; O'Malley & Chamot, 1990; Schmitt, 1997; Takač, 2008). VLSs have been classified by different scholars (Gu &

Johnson 1996; Nation, 2001; Oxford & Crookall, 1990; Schmitt, 1997). The widely-known and widely accepted VLSs classifications among researchers is Schmitt's (1997) taxonomy (Nirattisai & Chiramanee, 2014).

Schmitt (1997) proposed five sub-categories of VLSs: *determination strategies*, *social strategies*, *memory strategies*, *cognitive strategies* and *meta-cognitive strategies*. The first, *determination strategies*, consists of the strategies that learners use to determine the meaning of the words without interaction with others including analyzing parts of speech, analyzing affixes and roots, checking for L1 cognate, analyzing any available pictures or gestures, guessing from textual context, using a bilingual dictionary, using monolingual dictionary, using word lists and use flash cards; whereas, *social strategies* are ways that learners use to find the word's meaning by interacting with others. These strategies are asking an L1 translation from a teacher, asking synonym of a new word or paraphrase from a teacher, asking a meaning from classmates, asking a sentence including the new word from a teacher, interacting with native speakers, studying and practicing meaning in a group and, discovering new meaning by group work activity. *Memory strategies* refer to the strategies in which students associate new words with previous knowledge. Examples of these strategies include studying word by using pictures which represent its meaning, imagining the meaning of words, connecting the word to a personal experience, associating the word with its coordinates, connecting the word to its synonyms and antonyms, grouping words together to study them, grouping words together within a storyline, studying the spelling of a word, studying the sound of a word, saying new word aloud when studying, imagining word form, underlining initial letters of the word, etc. *Cognitive strategies* are similar to memory strategies and include repetition and using mechanical means. Verbal repetition, written repetition, using word lists, using flash cards, taking notes in class, using the vocabulary section in textbooks, listening to word on tapes of word lists, putting English labels on physical objects, keeping a vocabulary notebook are all included in this category. Lastly, *metacognitive strategies* involve the strategies that learners use to control and evaluate their own learning, for example, using English language media, testing oneself with word tests, using spaced word practice, skipping or pass new words, continuing to study words over time, etc.

5.2 Vocabulary Level Tests

In early 1983, Paul Nation established the vocabulary level test which was used to estimate a non-native speaker's English vocabulary size. It was a form of receptive vocabulary knowledge. Words in the tests were the frequently-used words from A Computational Analysis of Present Day American English, The Teacher's Word Book of 30,000 Words, and General Service Lists (GSL) (Schmitt, Schmitt, & Clapham, 2001).

After that, it was widely used among researchers and teachers who want to measure the size of their subjects' vocabulary knowledge (Read, 2000). Nation (1989 cited in Read, 2000) categorized the words into five ranges: 2,000-word level, 3,000-word level, 5,000-word level 10,000-word level and academic word level. The most frequently-used words in routine communication were 2,000-word level. Three thousand-word level and above were words located as the university word level (Laufer & Paribakht, 1998). Later, Schmitt (1993) developed it by using the same target words, but changed the form. The blank filing space was added to test the productive vocabulary knowledge.

Later, In 2007, Xing and Fulcher examined the reliability of the two versions of the Vocabulary Level Test, version A of Schmitt (1993) and version B of Nation (2001). They conducted a study with 46 Chinese students who were new arrivals in the UK. Two thousand-words level – 5,000-words level test were used. It was found that these two versions of the test were highly correlated and reliable.

To learn high frequency words, Nation (2012) mentioned an indirect and a direct way. The indirect way involves students learning unconsciously, for example, reading a graded book (Oxford Book worms, Longman Fiction, Macmillan Ranger, etc.), listening to stories, and doing pair or group activities. The direct way is where students learn consciously, for example, intensive reading, using vocabulary learning strategies and doing vocabulary exercises.

To learn low frequency vocabulary, Nation (2012) suggested students to guess the meaning of words from context and use dictionary. These are categorized as *determination strategies* of Schmitt's taxonomy (1997). Furthermore, *memory*

strategies were suggested to apply for the students who want to learn low frequency words, for example, using L2- L1 word cards, using *mnemonics strategies*, and *remembering prefix-root*.

5.3 Related Studies

Studies that reported the students' VLSs use and vocabulary knowledge have been conducted at the high school level (Walum & Charumanee, 2014), the vocational level (Teng, 2015), and the university level (Kalajahi & Pourshahian, 2012; Komol & Sripetpun, 2011; Nirattisai & Chiramanee, 2014; Suppasetserree & Saitakham, 2008).

At the high school level, Walum and Charumanee (2014) studied the use of vocabulary learning strategies, level of vocabulary knowledge, and the relationship between vocabulary knowledge and the use of vocabulary learning strategies of 40 high school students in grade 12. They found that most of the students' average scores were at 1000-word level. The students moderately used VLSs. There were low negative correlations between the VLSs used and vocabulary knowledge. The authors also asserted that the VLSs did not support students' vocabulary knowledge, especially at 3000 word-level.

At the vocational level, Teng (2015) investigated the relationship between direct and indirect VLSs used and the depth and breadth of vocabulary knowledge of 145 vocational students in Nanning, China. Direct and indirect strategies framework was applied to investigate the level of strategies use. Moreover, Vocabulary Level Test (Schmitt et al., 2001) was adopted to measure vocabulary breadth, while Word Associates Test (Read, 2004) was utilized to measure vocabulary depth. The results showed a positive correlation between the use of VLSs and vocabulary knowledge. In addition, indirect metacognitive strategies had a stronger correlation with vocabulary knowledge. The researcher recommended that English teachers emphasize indirect metacognitive strategies in the teaching and learning processes to help improve students use of VLSs, to allow them to take active responsibility for their own vocabulary learning.

At the university level, Suppasetserree and Saitakham (2008) studied the VLSs used by high and low achieving university students who were English and non-English

major students. Questionnaires were administered to 56 students majoring in English and 60 Engineering students. VLSs questionnaire contained 6 strategies: guessing strategies, dictionary strategies, note-taking strategies, memory rehearsal strategies, memory encoding strategies, and activation strategies. Results showed that high achievers of both English and non-English majors most frequently preferred guessing strategies, while low achievers of both groups used dictionary strategies for learning English vocabulary. Researchers suggested that teachers should specify the benefit of vocabulary learning strategies to students in order to give students more understanding while they are learning it.

Komol and Sripetpun (2011) studied the VLSs used and its relationship with the vocabulary knowledge of second-year university students in Thailand. One hundred and forty-two students were divided into two groups based on their vocabulary knowledge; high vocabulary level and low vocabulary level. The researchers used the vocabulary level test of Schmitt et.al. (2000) at the size of 2000-word level, 3000-word level, 5000-word level and Academic Word List. Schmitt taxonomy of vocabulary learning strategies questionnaire was applied, and the results showed that all subjects used VLSs at moderate levels. Determination strategies were the most frequently used whereas social strategies were used less often. Students with high vocabulary scores used VLSs significantly more often than the students with low vocabulary scores. Moreover, the positive relationship between two variables was found which shows that students with the high vocabulary scores used VLSs more efficiently. The researchers suggested that language teachers understand the students' learning pattern before training them in learning vocabulary.

Asgari and Mustapha (2011) examined the type of vocabulary learning strategies used by 10 Malaysian ESL students at a university in Malaysia. Interviewing these students revealed that Malaysian students majoring in Teaching English as a Second Language (TESL) programs employed 'learning a word through reading, 'using of monolingual dictionary', 'using various English-language media', and 'applying new English word in their daily speaking' which were categorized as memory, determination, and metacognitive strategies. The authors recommended that, to get a better understanding of the most beneficial strategies, the effects of culture, home

environment, peer groups, teaching methods and classroom atmosphere on vocabulary learning strategies should be studied.

In Iran, Kalajahi and Pourshahian (2012) examined the relationship between VLSs use and vocabulary knowledge of university students. Vocabulary Level Tests and VLSs questionnaires were used, and the results revealed that most students used psycholinguistic and metacognitive strategies. However, there was no significant correlation between students VLSs use and their vocabulary knowledge. The authors recommended that, in order to increase their vocabulary, students should be trained to use various kinds of strategies.

In addition to the studies mentioned above, some studies explored the correlation between students' fields of study and their VLSs use (Bernardo & Gonzales, 2009; Boonkongsan & Intaraprasert, 2014; Tsai & Chang, 2009; Siriwan, 2007; Wanpen, Sonkoontod & Nonkukhetkhong, 2013).

Siriwan (2007) explored the frequency of vocabulary strategies used by 1,481 students from 12 Rajabhat Universities. Five factors were investigated: gender (male and female), major field of study (English, science-oriented, and non-science-oriented) type of academic program of study (regular or part-time), previous language learning experience (more or less) and level of vocabulary proficiency (high, medium and low). A strategy questionnaire and a semi-structured interview were used to collect data. The findings determined that students used vocabulary learning strategies at a medium level. Four variables (genders, fields of study, previous language experience, and level of vocabulary proficiency) were found strongly related to factors, including major field of study, gender of the students, level of vocabulary proficiency and previous language learning experience

Tsai and Chang (2009) investigated the use of VLSs among 675 Taiwan university students with different majors, English proficiency levels, and genders. The VLSs questionnaire results indicated that, overall, the most frequently used strategies were dictionary strategies. It was revealed that, at lower proficiency level, English major students used dictionary strategies more frequently than non-English major students, while non-English major students used sources, guessing, encoding and

activation strategies more frequently than English major students. At intermediate level, English major students employed sources, guessing and encoding strategies more frequently than non-English major students. For high proficiency level, English major students used management and vocabulary perception strategies more frequently than non-English major students, while non-English major students used dictionary more frequently than English major students. However, there were no significant differences between male and female students. Based on the results, the researcher recommended that teachers train students to use dictionaries. In addition, various kinds of VLSs which best suited students' majors and proficiency level should be taught.

In a comprehensive Philippine university, the Philippines, Bernardo and Gonzales (2009) examined five categories of VLSs use (determination, social, memory, cognitive and metacognitive strategies) of 202 university students across five disciplines using VLSs questionnaire: liberal arts and education (AB/Ed), computer science and engineering (CSE), business education (BE), hospitality management (HM), and allied medical science (AMS). AB/Ed students used determination strategies more than AMS students, and CSE students used social strategies more than AMS students. Researchers suggested that curriculum developers and classroom teachers must have language function which can be recalled immediately.

Wanpen, Sonkoontod, and Nonkukhetkhong (2013) reported VLSs use and technical vocabulary proficiencies of 47 engineering university students. Samples were divided into two groups; general education students and vocational students. Result showed all samples used metacognitive strategies most frequently. Finding revealed differences in the use of these two groups. General education students used memory, cognitive and determination strategies, while vocational students preferred social and determination strategies. For their vocational vocabulary proficiencies, students with the educational backgrounds in vocational stream had higher technical vocabulary proficiencies than students whose educational backgrounds were in general education stream. A study suggested that teachers should provide various strategies for students. This approach would give teachers an opportunity to find out which strategies are appropriate for their students. Moreover, they recommended that English teachers should support students' awareness of vocabulary strategies.

In Thailand, Boonkongsaen and Intaraprasert's study (2014) of 905 university students in 33 institutions was done to investigate the relationship between fields of study, language-learning experiences, and students' use of VLSs. Using a questionnaire, the results indicated that a student's field of study and prior language-learning experiences affected the students' overall use and choice of VLSs. Students who had experiences with English beyond the formal classroom employed VLSs more frequently than students who only experienced English within the formal classroom. The variation patterns of students' VLSs use were also found in relation to fields of study and language-learning experiences.

As presented above, those previous studies were done at different level of education. While English is used as a medium language among ASEAN countries, vocational students' English skills need to be improved. It is, therefore, necessary to investigate the use of vocabulary learning strategies vocational students and their English vocabulary knowledge.

6. Methodology

The voluntary participants of this study were 242 first year high vocational certificate students of five government vocational colleges in Krabi province in the second semester of the academic year 2014. Focusing on three out of eight professional groups under AEC agreements, the fields of study were limited to engineering, accounting, and hotel and tourism. Within the engineering field, 127 students majored in Mechanical Tools, Mechanical Technology, Information and Technology, Electrical Power, and Electronics Technology. Forty-one students majored in Accounting and 74 students majored in Tourism and Hospitality.

The data were collected through a vocabulary level test, a vocabulary learning strategies questionnaire, and a semi-structure interview.

The Vocabulary Level Test (VLT), adapted from an English version of vocabulary size test (Nation, 2008), was designed to measure the receptive vocabulary knowledge of the participants at the frequency level of 1,000, 2,000, 3,000, 4,000 and 5,000. The item clusters in the test including nouns, verbs, and adjectives were randomly chosen from the Headwords of the first 10,000 words from British National

Corpus which was analyzed by the Range program. It can tell how much and which vocabulary occurs in a particular text or group of texts. Since there are many studies conducted to investigate students' vocabulary level using vocabulary level tests, the words which are not used in previous tests were randomly selected to ensure that the students have never taken the test before. Using a matching format, a bilingual VLT which is English-Thai consisted of 50 items, 10 items from each level: 1,000, 2,000, 3,000, 4,000 and 5,000 word-frequency level. Each item consisted of six English words and three words were translated into Thai. The English words were in alphabetical order. The test takers were required to match each target English word with its correct meaning. For scoring, one point was given for the correct answer and no points were given for incorrect answers. The maximum score of the test was 150.

An example of the test is shown below.

*Item 1

1. Address
2. Beauty _____ วันหยุด
3. Holiday _____ ป้าย, สัญลักษณ์
4. Position _____ ที่อยู่
5. Sign
6. Wood

*First item in the vocabulary test

The validity of the test was checked by three experts using Index of Item Congruence: IOC. The test validity was 0.98. After piloting the VLT in January, 2015 with 34 first-year computer business majors at Krabi Technical College, the Kuder-Richardson formula 20 was used to analyze the test reliability of the VLT. The test discrimination and the difficulty of the test items were checked using a statistical program. The test reliability score was 0.99 which indicated that this test had a high degree of reliability. The test discrimination result was 0.27 and difficulty result of the test items is 0.32. This means that the discrimination and item difficulty were both in an acceptable range. It could be concluded that the VLT was valid and reliable enough to be used as an instrument of this study.

Regarding the questionnaire, it was composed of two sections. Section one was designed to ask the participants' background information including gender and English learning experience. Section two was a five-point Likert scale frequency check, ranking from (5) *always use* to (1) *never or almost never use*. The questionnaire contained 40 items which were categorized based on Schmitt's taxonomy framework. It was divided into five main VLSs categories: items 1-8 for *determination strategies*, items 9-14 for *social strategies*, items 15-25 for *memory strategies*, items 26-31 for *cognitive strategies* and items 32-39 for *metacognitive strategies*. Item 40 was an open-ended section where a blank space was provided to elicit other strategies that were not presented in item 1-39. The questionnaire, which was presented in Thai, was adapted from the questionnaires of Nirattisai (2014), Thavonpon (2012) and Walum (2014). Validity of the questionnaire was checked by three experts in TEIL field using the Index of Item Congruence: IOC. The validity result was 0.98. After piloting, the reliability of the questionnaire was checked using the Kuder-Richardson formula 20. The reliability of the questionnaire was 0.917. Both scores indicated that the questionnaire was highly valid and reliable.

With regard to the individual semi-structure interview, it was used to elicit detailed information about participants' attitudes towards English and the VLSs employed by the participants. Ten students volunteered to take part in an interview 15-20 minutes long. Thai was used in the interview part in order to ensure the understanding between the researcher and interviewees. The interview was audio recorded and notes were also taken during the interview.

The data were collected in January and February 2015 which was the second semester of the 2014 academic year. Participants were asked to take the vocabulary level test with no time limit. Two hundred and forty-two students completed the VLT and questionnaire. Then, ten volunteers: four from engineering, three from hotel and tourism and three from accounting, participated in the semi-structured interview. The data collected from the questionnaire, vocabulary level test and semi-structure interviews were analyzed using a statistical program. The data were analyzed using the following statistical methods:

1) Vocabulary Level Test

The estimated vocabulary level of students in this study was based on Nation (1990; 2008 cited in Thavornpon, 2012). Because the words were a representative sample, the students' score at the level displayed the words that students knew at that level. The following example demonstrates how estimation of the vocabulary level was calculated: 1000 divided by 30 = 1 word represents 33.33 words at the level. It means that if the students scores 24 out of 30 at a 1000-word level, the students knows 80% of the words at a 1000-word level. Moreover, the same calculation methods were used to calculate scores for the other four levels.

2) Vocabulary Learning Strategies

Mean scores and standard deviation of the research data were computed to analyze the frequency of VLSs use.

The interpretation of the use of VLSs was applied from Srisa-ard (2002). The mean scores of the VLSs were interpreted as followed:

4.21 – 5.00 = Always used strategies

3.41 – 4.20 = Frequently used strategies

2.61 - 3.40 = Sometimes used strategies

1.81 – 2.60 = Seldom used strategies

1.00 - 1.80 = Almost never used strategies

In addition, ANOVA was employed to analyze statistically- significant differences between VLSs used among the three groups of students.

3) Relationships between vocabulary learning strategies and vocabulary levels

Pearson's Correlation was applied to analyze the relationships between the use of vocabulary learning strategies and vocabulary levels. Levels of correlation were interpreted as follows:

0.00 - 0.19 = Very weak

0.20 - 0.39 = Weak

0.40 - 0.59 = Moderate

0.60 - 0.79 = Strong

0.80 - 1.00 = Very strong

7. Results and Discussion

Research question 1: What vocabulary learning strategies do vocational students employ?

Frequency levels of students' use of VLSs in each category is presented in Table 1

Table 1

The Students' Use of Vocabulary Learning Strategies according to Fields of Study

VLSs Category	Fields of study						\bar{X}	S.D.	F	Frequency level
	Eng. (n = 127)		Acc. (n = 41)		Host. (n = 74)					
	\bar{x}	S.D.	\bar{x}	S.D.	\bar{x}	S.D.				
Memory Strategies	3.07	.66	3.22	.69	3.32	.65	3.17	.67	3.37*	Sometimes used strategies
Social Strategies	3.30	.63	3.32	.64	3.44	.52	3.35	.60	1.21	Sometimes used strategies
Determination Strategies	3.21	.56	3.26	.63	3.28	.58	3.24	.58	.41	Sometimes used strategies
Metacognitive Strategies	3.10	.80	3.13	.86	3.13	.69	3.11	.78	.05	Sometimes used strategies
Cognitive Strategies	2.91	.75	3.00	.80	3.03	.66	2.96	.73	.67	Sometimes used strategies
Overall	3.11	.58	3.19	.58	3.25	.50	3.17	.56	1.65	Sometimes used strategies

Note: * Sig at $P < 0.05$

(Eng. = Engineering, Acc. = Accounting, Host. = Hotel and tourism)

VLSs use was reported by 127 engineering students, 41 accounting students and 74 hotel and tourism students. Table 1 showed the means of the frequency level of students' use of VLSs in each category from the highest to lowest mean. It was found that the overall frequency level of VLSs used by the vocational students was in the range of "sometimes" (mean = 3.17, S.D. = .56), indicating that students sometimes used vocabulary learning strategies. Among five categories, *social strategies* was

ranked as the highest used strategy (mean = 3.35, S.D.= .60), followed by *determination strategies* (mean = 3.24, S.D. = .58), *memory strategies* (mean = 3.17, S.D. = .67), *metacognitive strategies* (mean = 3.11, S.D. = .78) and finally *cognitive strategies* (mean = 2.96, S.D. =.73).

The findings showed that vocational students employed all five categories at the frequency level of “sometimes”. A possible explanation for this finding may be related to the neglect of explicit teaching and learning of vocabulary (Hedge, 2000; Schmitt, 1997). In Thailand, vocabulary has not received attention as a subject, but is taught as a part of listening, speaking, reading and writing (Nirattisai & Chiramanee, 2014). Therefore, a lack of attention to vocabulary learning and teaching appears to be a key factor affecting students’ use of VLSs (Siriwan, 2007).

Overall, the *social categories* were used by vocational students with the highest mean while *cognitive strategies* were used the least. The findings of this study were not in line with the results of Komol and Sripetpun’s study (2011) and Nirattisai and Chiramanee’s study (2014) which found that *social strategies* were the least used by university students. The interview, however, supported the findings of this study. Seven students, two engineering students, two accounting students and three hotel and tourism students, reported that their teachers created relaxed classroom atmospheres which helped them feel comfortable interacting with others in the classroom. Another possible reason might be because of exposure to English. The hotel and tourism students learned three English subjects in the second semester; Basic English 2, English for Hotel and Tourism 2, and English for Food and Beverage 2, while engineering students had to learn two English subjects; Basic English 2 and English for the English for Industrial Technology 2 and the accounting students learned only one subject, Basic English 2. Moreover, hotel and tourism students indicated that they had opportunities to practice English when they were in internship programs. So, they gained the English speaking skills indirectly.

With regard to VLSs use by students in the three fields of study, the findings showed that out of five categories of VLSs, no significant difference was found for the four categories (*social strategies*, *determination strategies*, *metacognitive strategies*, *cognitive strategies*). The hotel and tourism participants used the following four

strategies: *social strategies* (mean = 3.44, S.D. = .52), *determination strategies* (mean = 3.28, S.D. = .58), *metacognitive strategies* (mean = 3.13, S.D. = .69) and *cognitive strategies* (mean = 3.03, S.D. = .66) slightly more than the accounting and engineering participants. Interestingly, hotel and tourism participants employed *social strategies* the most. Meanwhile, the hotel and tourism students employed *memory strategies* significantly more frequently than accounting and engineering students at $P < 0.05$. ($F = 3.37^*$, mean = 3.32, S.D. = .65).

The findings of the study revealed that *memory strategies* which are strategies that students have to relate the new vocabulary with their previous knowledge was employed by the hotel and tourism students more frequently than the other two clusters of the participants. One possible explanation is that hotel and tourism students might relate the new vocabulary with their knowledge or experiences in the internship course. On the other hand, accounting and engineering students might learn their English only in the classroom. So, they might get less opportunity to relate what they have learned with real life situations.

When looking closer at the variation in the VLSs use, there was a significant difference in the use of VLSs among vocational students in the three fields of study. The variations in the students' use of all 39 VLSs observed, according to their fields of study, are presented in Table 2.

Table 2

The Significant Variations in the Students' Strategy Use according to Fields of Study

No.	Strategies	Fields of Study			F	Pattern of Variation
		Eng. (n=127) \bar{x}	Acc. (n=41) \bar{x}	Host (n=74) \bar{x}		
Memory Strategies						
15.	Study words with pictures	3.17	3.32	3.45	2.29	
16.	Connect words with a personal experience	3.17	3.17	3.78	2.09	
17.	Make a group of words by topic	3.05	3.00	3.09	.16	
18.	Say words aloud when studying	2.99	3.29	3.47	6.58**	Host> Acc.>

No.	Strategies	Fields of Study			F	Pattern of Variation
		Eng. (n=127) \bar{x}	Acc. (n=41) \bar{x}	Host (n=74) \bar{x}		
						Eng.
19.	Spell words aloud when studying	3.05	3.34	3.42	4.22*	Host.> Acc.> Eng.
20.	Learn the words of an idiom	3.09	3.29	3.24	1.23	
21.	Connect the word with its synonyms or antonyms	3.06	3.15	3.28	1.34	
22.	Associate the word with other words you have learned	3.19	3.37	3.38	1.25	
23.	Stick the word and its meaning in the place where it can be obviously seen.	2.96	3.02	3.08	.31	
24.	Remember words by underlining initial letter of the words	3.06	3.10	3.39	2.51	
25.	Use physical action when studying words. For example, you walk when you remember the word "walk"	2.76	3.05	3.07	2.78	
Social Strategies						
9.	Ask teachers for an L1 translation	3.50	3.51	3.50	.01	
10.	Ask teachers to describe a similar meaning or provide a synonym of the word.	3.44	3.34	3.45	.25	
11.	Ask a teacher for a sentence including the word	3.39	3.51	3.53	.69	
12.	Ask classmates for meaning	3.40	3.39	3.62	1.53	
13.	Discover new meanings through group work activity	3.32	3.32	3.34	.01	
14.	Interact with native speakers	2.77	2.83	3.19	4.26*	Host.> Acc.> Eng.

No.	Strategies	Fields of Study			F	Pattern of Variation
		Eng. (n=127) \bar{x}	Acc. (n=41) \bar{x}	Host (n=74) \bar{x}		
Determination Strategies						
1.	Analyze part of speech such as verb, noun, and adjective.	3.11	2.88	2.96	1.93	
2.	Analyze affixes and roots	2.97	2.83	2.91	.52	
3.	Guess word meaning from textual context	3.41	3.34	3.57	1.28	
4.	Analyze any available pictures or gestures	3.46	3.44	3.77	4.03*	Host.> Eng.> Acc.
5.	Use flash cards	2.85	3.05	2.92	.72	
6.	Use an English-English dictionary	3.08	3.17	3.12	.13	
7.	Use an English-Thai dictionary	3.44	3.76	3.57	1.75	
8.	Use a Thai-English dictionary	3.35	3.61	3.46	1.18	
Metacognitive Strategies						
32.	Listen to and watch English media for example movies, songs, internet, etc.	3.35	3.59	3.22	1.92	
33.	Read English media for example cartoon books, magazines, novels, website etc.	3.05	3.32	3.07	.99	
34.	Translate the word from Thai to English	3.14	3.29	3.35	1.02	
35.	Translate the word from English to Thai	3.19	3.27	3.46	1.59	
36.	Play vocabulary games	3.09	2.90	3.01	.47	
37.	Play online games	3.29	3.00	2.81	4.31**	Eng.> Acc.> Host.
38.	Try to speak or describe things in English	3.02	3.15	3.18	.62	
39.	Practice by doing vocabulary exercise	2.91	2.98	3.01	.24	

No.	Strategies	Fields of Study			F	Pattern of Variation
		Eng. (n=127) \bar{x}	Acc. (n=41) \bar{x}	Host (n=74) \bar{x}		
Cognitive Strategies						
26.	Learn words through verbal repetition	3.30	3.51	3.59	2.41	
27.	Learn words through written repetition	3.11	3.41	3.35	1.97	
28.	Keep a vocabulary notebook everywhere you go	2.57	2.49	2.77	1.17	
29.	Listen to a tape of word list	2.51	2.73	2.66	.98	
30.	Take notes of newly learned words in class	2.94	2.90	3.20	1.86	
31.	Review words by reading the vocabulary section in text book	2.97	2.85	2.96	.25	

Note: *Sig at P<0.05, ** Sig at P<0.01

(Eng. = Engineering, Acc. = Accounting, Host = Hotel and tourism)

Table 2 demonstrates significant variations in the use of VLSs according to fields of study. Five out of 39 VLSs had significant differences among the three fields of study. The results showed that there were three patterns of variation relating to three fields of study: Host > Acc.> Eng; Host > Eng. > Acc.; and Eng. > Acc. > Host.

The first variation pattern was “Host > Acc.> Eng.” indicating which strategies were used more frequently by hotel and tourism students than accounting and engineer students. Three strategies that hotel and tourism students employed more frequently than accounting and engineering students were item 14, ‘interact with native speakers’ (F = 4.26, P< 0.05) which is in *social categories*, item 18 ‘say words aloud when studying’ (F = 6.58, P< 0.01), and item 19 ‘spell words aloud when studying’ (F = 4.22, P< 0.05) which are in *memory strategies* respectively.

The exposure to language can be one explanation for the participants’ use of the *social strategies*, ‘interact with native speakers *social strategies*. Students with more exposure to English tended to have a greater frequency of VLSs use (Nirattisai &

Chiramanee, 2014). The hotel and tourism students had to work and interact with foreigners. Furthermore, they had more experiences in learning language outside the classroom, especially while they were trainees. The experiences provided them more opportunities to use and learn more vocabulary than engineering and accounting students.

The findings of this study were consistent with Boonkongsaen and Intaraprasert's study (2014) which concluded that students who had exposure to English beyond classroom instructions employed VLSs more frequently than learners who had exposure to English only within classroom instructions. In addition, language learning experience had a strong effect on students' VLSs use (Boonkongsaen, 2012). The findings of the questionnaires were confirmed by the responses from the interviews. From the interviews, two out of three hotel and tourism students pointed out that they usually learned vocabulary from foreigners. During their internships, they had to speak English with the foreigners. When they did not understand the words, they asked them to speak slowly or to explain it again.

For 'say words aloud when studying', and 'spell words aloud when studying' strategies (*memory strategies*), three hotel and tourism students cited that they usually said and spelt the words out loud when they were studying vocabulary, especially when their English teacher taught these strategies in class. After the class ended, the teachers assigned homework, so they needed to remember the words, English sentences and their meaning. Therefore, these strategies helped them learn and retain.

The second variation pattern, "Host > Eng. > Acc." indicates which strategies were used by hotel and tourism students more than engineering and accounting students ($F = 4.03, P < 0.05$). In other words, hotel and tourism students used item 4, 'analyze any available pictures or gestures' strategy (*determination strategies*) more frequently than engineering and accounting students. The difference may be explained by examining the learning materials that the teacher provided students in class. Students in all three fields of study reported that there were many colored pictures and symbols in their English textbooks and learning materials that aroused their interest while they were learning English in their classroom. This might be because the hotel and tourism

participants learned a lot more English vocabulary, words and phrases, technical terms and expressions, and symbols in their three English subjects than engineering students learning two English subjects, and the accounting students learned in only one subject, Basic English. It can be said that hotel and tourism students had more opportunities to practice English through learning materials than engineering and accounting students.

The use of '*analyze any available pictures or gestures*' (*determination strategies*) could be explained in relation to materials that attract students' attention. According to Copper (as cited in Abebe & Davidson, 2012), pictures aid students to determine the meaning of words. Plass, Chun, Mayer, and Leutner (1998) and Oxford and Crookall (1990) also supported that visuals and verbal modes aided students to learn a second language. Furthermore, Shahrokni's study (2009) suggested that the combination of text and images glossary could help students learn more vocabulary.

The third pattern "Eng. > Acc. > Host" shows strategies were used by more frequently by engineering students than accounting and hotel and tourism students ($F = 4.31, P < 0.01$). It was found that '*play online games*' strategy (item 37) had a higher frequency of use by engineering students than accounting and hotel and tourism students. In terms of '*playing online games*' (*metacognitive strategies*), three out of four engineering students informed that they learned new vocabulary when playing online games. They reported they had to follow English instructions in online games. Frequently, they learned new words from those online games. Rankin, McNeal, Shute, and Gooch (2008) stated that instructions in online games enhance students learn L2 vocabulary, reading comprehension skills, and conversation. This is supported by the findings from the interviews. Three engineering students cited that they improved their communication skill by speaking out with their competitors in English when playing games online.

Based on significant variations in the use of VLSs according to fields of study mentioned above, one possible explanation might be related to the different characteristics of students. According to the studies of Bernardo and Gonzales, (2009), Boonkongsan and Intaraprasert (2014), Tsai and Chang (2009), students from various fields of study employed different VLSs. The results of those studies also revealed that a field of study is one of the factors affecting students' VLSs use. In this study, hotel

and tourism students were more extroverted. Meanwhile, students with engineering background were likely to rely on media or technology. Two out of the four engineering students pointed out that they were exposed to English within the classroom and when playing games.

Research Question 2: What are the vocabulary levels of vocational students?

The vocabulary levels and the mean scores of vocational students is presented in Table 3.

Table 3

Vocabulary Levels and Mean Scores of Vocational Students

Vocabulary Level	Points	Mean	% of correct answer	S.D.
1000	30	17.13	57.11	6.99
2000	30	14.49	48.29	7.48
3000	30	8.57	28.55	4.79
4000	30	6.97	23.22	4.21
5000	30	5.89	19.64	3.70
Total	150	53.05	35.36	22.58

According to Table 3, the participants' total vocabulary level test (VLT) mean scores was 53.05 out of 150 (35.36% of correct answer). Among five vocabulary levels, 1000-word level was ranked as a highest mean score (mean score = 17.13 out of 30; 57.11% of correct answer), followed by 2000-word level (mean score = 14.49 out of 30; 48.29% of correct answer), 3000-word level (mean score = 8.57 out of 30; 28.55% of correct answer), 4000-word level (mean score = 6.97 out of 30; 23.22% of correct answer) and 5000-word level (mean score = 5.89 out of 30, 19.64% of correct answer).

The findings demonstrated students' vocabulary capability. Students gained a high mean score at 1000 and 2000-word level. The words at 1000-word level (Nation, 1993) and 2000-word level (Nation, 2008) are the basic vocabulary. Students who learn

English as a second language encounter those words in their informal conversation and basic textbook. However, 3000, 4000 and 5000-word level are more difficult (Nation, 2008). According to Nation (2014), to be able to make informal conversation or comprehend the movies, students need to know around 6,000 words. Moreover, to read a novel or newspaper, students need to know around 8,000-9,000 words. This indicates that vocational students might not have sufficient vocabulary for productive and receptive vocabulary language skills.

Table 4

Vocabulary Levels of Students in the Three Fields of Study

Vocabulary Level	Fields of study								
	Engineer students (n=127)			Accounting students (n=41)			Hotel and Tourism students (n=74)		
	Mean	%	S.D.	Mean	%	S.D.	Mean	%	S.D.
1000 (30 points)	15.59	51.97	7.49	19.66	65.53	6.46	18.38	61.26	5.70
2000 (30 points)	13.39	44.62	8.26	16.00	53.33	7.13	15.54	51.80	5.89
3000 (30 points)	9.03	30.10	5.22	7.49	24.96	4.17	8.36	27.88	4.25
4000 (30 points)	6.98	23.28	4.26	6.68	22.28	4.11	7.09	23.65	4.22
5000 (30 points)	5.83	19.42	3.79	4.98	16.59	3.29	6.51	21.71	3.68
Overall (150 points)	50.82	33.88	24.97	54.80	36.54	19.98	55.89	37.26	19.22

Table 4 shows students' VLT mean scores of each field of study. For overall, hotel and tourism students gained the highest mean score (mean score = 55.89 out of 150; 37.26% of correct answer), while accounting and engineering students gained lower mean score (mean score = 54.80 out of 150; 36.54% of correct answer, and mean score = 50.82 out of 150; 33.88% of correct answer respectively).

When looking at each vocabulary level, accounting students gained the highest mean scores at 1000 and 2000- word level while hotel and tourism students gained the highest mean scores at 4000 and 5000- word level. At 1000 and 2000- word level, accounting students gained the highest VLT mean scores (mean scores = 19.66 and

16.00 out of 30; 65.53% and 53.33% of correct answers respectively) followed by hotel and tourism students (mean scores = 18.38 and 15.54 out of 30; 61.26% and 51.80% of correct answers respectively) and engineering students (mean scores = 15.59 and 13.39 out of 30; 51.97% and 44.62% of correct answers respectively). At 3000-word level, engineering students gained the highest mean score (mean score = 9.03 out of 30; 30.10% of correct answers) followed by hotel and tourism students (mean score = 8.36 out of 30; 27.88% of correct answers) and accounting students (mean score = 7.49 out of 30; 24.96% of correct answers). At 4000 and 5000-word level, hotel and tourism students gained the highest mean score (mean score = 7.09 and 6.51 out of 30; 23.65% and 21.71% of correct answers) followed by engineering students (mean score = 6.98 and 5.83 out of 30; 23.28% and 19.42% of correct answers) and accounting students (mean score = 6.68 and 4.98 out of 30; 22.28% and 16.59% of correct answers).

Based on the data presented above, when looking at each fields of study, students in three fields of study gained the mean score of correct answer over 50% at 1000-word level which is the most frequency words that students encountered. The findings from the interview confirmed the results. Five students stressed that in class, they usually learned basic words related to their fields of study. Three engineering students expressed that they learned the word ‘*engine*’ (test number 10 in 1000-word level) from their textbooks, so they could choose the correct answer. Two accounting students stated that they chose the correct meaning of the word ‘*cash*’ (test number 19 in 2000-word level) because it was the basic word found in their field. However, they were not familiar with the words at 3000 to 5000-word level.

Research Question 3: What are the relationships between the use of vocabulary learning strategies and vocabulary levels of vocational students?

Table 5 depicts the correlation between the use of VLSs and vocabulary levels of vocational students. The levels of correlation between VLSs and their vocabulary levels occurred, but at a very weak level.

Table 5

Relationships between Vocational Students’ Vocabulary Learning Strategies Use and their Vocabulary Levels

VLSs	Vocabulary Level									
	1000		2000		3000		4000		5000	
	r	p-value	r	p-value	r	p-value	r	p-value	r	p-value
Determination	.050	.221	.027	.339	.027	.340	.087	.090	-.008	.453
Social	.058	.186	.074	.125	.016	.404	.011	.430	.000	.498
Memory	.152**	.009	.126*	.025	.059	.182	.070	.140	-.003	.479
Cognitive	.142*	.014	.126*	.025	.053	.204	.101	.059	-.010	.441
Metacognitive	.137*	.017	.128*	.023	.090	.081	.127*	.024	.030	.319
Overall	.138*	.016	.121*	.030	.063	.166	.097	.065	.002	.485

Note. **Correlation is significant at the 0.01 level.

*Correlation is significant at the 0.05 level

As shown in table 5, overall vocabulary learning strategies were significantly correlated with 1000 and 2000-word level at $p < 0.05$ ($r = .138$, $r = .121$ respectively) at a very weak level. When considering each vocabulary level, it was found that the 1000-word level was positively correlated with *memory*, *cognitive*, and *metacognitive* strategies at a very weak level ($r = .152$, $r = .142$, $r = .137$ respectively; at $p < 0.05$). However, 2000-word level was positively correlated with *memory*, *cognitive*, and *metacognitive* strategies at $p < 0.05$ ($r = .126$, $r = .126$, $r = .128$ respectively) at a very weak level. At 4000-word level, there was a positive correlation with *metacognitive strategies* ($r = .127$, $p < 0.05$) at a very weak level. However, significant correlation between those two variables was not found at the 3000 and 5000-word level.

This significant relationship between the participants' use of VLSs and their vocabulary levels found in this present study were in line with the study done by Komol and Sripetpun (2011). They found that the use of vocabulary learning strategies was correlated with learners' vocabulary level. In other words, learners with high frequency of vocabulary learning strategy use had a higher vocabulary knowledge in those levels. The correlation between those two variables found in this study was also in line with Komol and Sripetpun's (2011) study, which found that the use of *cognitive* and *metacognitive strategies* was correlated with 2000-word level.

To see deeply in each field of study, the correlations between the use of VLSs by engineering, accounting and hotel and tourism students and their vocabulary levels are presented in Table 6, 7 and 8.

Table 6

Relationships between Vocabulary Learning Strategies Use by Engineering Students and their Vocabulary Levels

VLSs	Engineering (n=127)									
	1000		2000		3000		4000		5000	
	r	p-value	r	p-value	r	p-value	r	p-value	r	p-value
Determination	-.038	.335	.006	.475	-.047	.300	.017	.426	-.077	.196
Social	.043	.314	.077	.195	.016	.428	.015	.433	-.042	.320
Memory	.080	.186	.118	.093	.042	.320	-.002	.491	-.003	.485
Cognitive	.133	.068	.158*	.038	.041	.323	.061	.249	-.059	.256
Metacognitive	.134	.066	.153*	.043	.091	.155	.112	.106	-.011	.449
Overall	.085	.172	.124	.083	.038	.337	.043	.316	-.039	.331

Note. **Correlation is significant at the 0.01 level.

*Correlation is significant at the 0.05 level

Table 6 showed the relationship of VLSs used by 127 Engineering students and their vocabulary levels. It demonstrated that 2000-word level was positively correlated with *cognitive* and *metacognitive strategies* at $p < 0.05$ ($r = .158$, $r = .153$ respectively) at a very weak level. This indicates that at the 2000-word level the Engineering students who employed more *cognitive* and *metacognitive strategies* to practice words may have higher vocabulary knowledge at this level.

Table 7

Relationships between Vocabulary Learning Strategies Use by Accounting Students and their Vocabulary Levels

VLSs	Accounting (n=41)									
	1000		2000		3000		4000		5000	
	r	p-value	r	p-value	r	p-value	r	p-value	r	p-value
Determination	.008	.480	-.009	.477	.039	.404	.076	.317	.067	.339
Social	.203	.101	.201	.104	.226	.078	-.004	.490	.236	.069
Memory	.190	.117	.120	.227	.216	.087	.236	.069	.098	.271
Cognitive	.101	.266	.083	.303	.251	.057	.137	.197	.192	.115
Metacognitive	.047	.386	.024	.441	.066	.342	.027	.434	.077	.316
Total	.138	.195	.099	.270	.192	.115	.135	.199	.150	.174

Note: **Correlation is significant at the 0.01 level.

*Correlation is significant at the 0.05 level

For accounting students, there was no significant correlation coefficient between the vocabulary learning strategies and their vocabulary levels. This means that the use of VLSs seemed not to help them learn their vocabulary. However, there is no guarantee that accounting students cannot remember the vocabulary. They might use other vocabulary learning strategies that were not in these lists to improve their vocabulary knowledge. From the interview, two accounting students informed that they used other VLSs which are not listed in the questionnaire. They mentioned making a bilingual rhyme, for example, make – ทำ, ดำ – black, lack – ขาด, when learning vocabulary.

Table 8

Relationships between Vocabulary Learning Strategies Use by Hotel and Tourism Students and their Vocabulary Levels

VLSs	Hotel & Tourism (n=74)									
	1000		2000		3000		4000		5000	
	r	p-value	r	p-value	r	p-value	r	p-value	r	p-value
Determination	.249*	.016	.085	.235	.179	.064	.209*	.037	.061	.303
Social	-.087	.230	-.093	.216	-.111	.174	.005	.485	-.123	.148
Memory	.196*	.047	.078	.255	.055	.322	.100	.198	-.091	.220
Cognitive	.153	.097	.045	.352	-.010	.465	.152	.098	-.041	.364
Metacognitive	.210*	.036	.140	.118	.112	.172	.215*	.033	.074	.267

Overall	.206*	.039	.081	.247	.073	.269	.174	.069	-.032	.394
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Note. **Correlation is significant at the 0.01 level.

*Correlation is significant at the 0.05 level

Table 8 shows the relationship of VLSs used by 74 hotel and tourism students and their vocabulary levels. It demonstrated that 1000-word level was positively correlated with *determination*, *memory*, and *metacognitive strategies* at $p < 0.05$ ($r = .249$, $r = .196$, $r = .210$ respectively) at a weak level, a very weak level and a weak level respectively. Interestingly, 4000-word level was positively correlated with *determination* and *metacognitive strategies* at $p < 0.05$ ($r = .209$, $r = .215$ respectively) at a weak level.

At 4000- word level, the hotel and tourism students gained the highest vocabulary points. They often used the strategy of *analyzing any available pictures or gestures (determination)* and *translating the word from English to Thai (metacognitive)*. It showed that students with high frequency used *determination* and *metacognitive strategies* to study vocabulary in 4000- word level may have higher vocabulary knowledge at those levels.

8. Conclusions

The findings of the study can be summarized as follows:

1. Vocational students sometimes used VLSs to learn vocabulary, often depending on *social strategies*. In relation to the variation in the students' use of VLSs and fields of study, the results showed that students in different fields of study often favored different VLSs.

2. Accounting, and hotel and tourism students gained scores of over 50 percent of correct answers at 1000 and 2000-word level. In contrast, they received less than 30 percent of correct answers at 3000, 4000 and 5000- word level. Engineering students gained scores of over 50 percent of correct answers at 1000 word-level. However, they received less than 45 percent of correct answers at 2000, 3000, 4000 and 5000 word-level.

3. The relationships between the use of VLSs and vocabulary levels of participants were found at a weak and a very weak level. The use of *memory*, *cognitive*

and *metacognitive strategies* was shown to aid students in learning vocabulary at a 1000 and 2000-word level. Along with learning at a low level, *metacognitive strategies* aided students to learn up to a 4000-word level. Engineering students used *cognitive* and *metacognitive* strategies to study vocabulary starting at a 2000-word level to assist them in learning vocabulary. Moreover, hotel and tourism students employed more *determination*, *memory*, and *metacognitive strategies* to practice words in the 1000-word level, and frequently used *determination* and *metacognitive strategies* to study vocabulary in 4000-word level. For accounting students, the relationship did not occur.

9. Pedagogical Implications

As summarized in the previous section, some implications for teaching and learning of English for vocational students can be drawn as follows:

1. Students from various fields of study employed different VLSs. This indicated that a field of study is one of the factors affecting students' use of VLSs. Therefore, teachers should emphasize the importance of vocabulary and encourage students to use a wider range of VLSs both in-class and in self-directed activities according to the characteristics of students. Therefore, students can take more individual responsibility for their own learning.

2. The findings showed that vocational students knew less than 50 percent of the vocabulary at 3000- 5000- word level. The students should be aware of their vocabulary knowledge. When graduating and entering the work force, they might face a difficulty in communication in English. The students, teachers and parties responsible for teaching English should be aware of this problems, and help students improve their vocabulary knowledge.

10. Recommendation for Further Studies

1. This study investigated the VLSs and vocabulary levels, and endeavored to discover any relationships between VLSs and vocabulary levels. The study was conducted with first year high vocational certificate students of five government vocational colleges in Krabi province, Thailand and was limited to three fields of study; engineering, accounting, and hotel and tourism. Further studies should be conducted

with private vocational colleges and with students at varying levels of vocational education.

2. This qualitative data of this present study was from a VLSs questionnaire. Further study may need more research instruments for example, observation, think aloud, etc. to explore more detailed information.

3. The vocabulary selected for vocabulary level test (VLT) is taken from the vocabulary level test at 1000 to 5000-word level. Further study with VLT test including English for Specific Purposes (ESP) Vocabulary Word Lists should be applied to measure vocational students' vocabulary knowledge.

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APPENDIX A

English-Thai Vocabulary Level Test

แบบทดสอบวัดระดับความรู้คำศัพท์ภาษาอังกฤษ
สำหรับนักศึกษาระดับประกาศนียบัตรวิชาชีพชั้นสูง ชั้นปีที่ 1
สถานศึกษาอาชีวศึกษาในจังหวัดกระบี่

คำชี้แจง

1. ข้อสอบทั้งหมด จำนวน 50 ข้อ 150 คะแนน (ไม่จำกัดเวลา)
 2. ให้นักศึกษาเลือกตัวเลขหน้าคำศัพท์ภาษาอังกฤษเติมลงในช่องว่างหน้าคำศัพท์ภาษาไทยให้ถูกต้องตามความหมายที่ให้ไว้
-

ตัวอย่างการทำแบบทดสอบ

- | | |
|----------|-----------------------|
| 1. Tree | |
| 2. Wall | _____ 4 _____ หนังสือ |
| 3. House | _____ 1 _____ ต้นไม้ |
| 4. Book | _____ 5 _____ ปากกา |
| 5. Pen | |
| 6. Clock | |

ระดับคำศัพท์ 1,000 คำ			
1	1. Address 2. Beauty _____ วันหยุด 3. Holiday _____ ป้าย, สัญลักษณ์ 4. Position _____ ที่อยู่ 5. Sign 6. Wood	6	1. Country 2. Guess _____ อานาจ 3. Loud _____ การคาดการณ์, การเดา 4. Right _____ ประเทศ 5. Power 6. Winter
2	1. Angry 2. Couple _____ เดือน 3. Finger _____ โกรธ 4. Keep _____ จัดเตรียม 5. Month 6. Prepare	7	1. Clean 2. Earth _____ ป่าไม้ 3. Forest _____ พื้นดิน, โลก 4. Need _____ สะอาด 5. Round 6. Shape
3	1. Complete 2. Know _____ รสชาติ 3. Note _____ สภาพอากาศ 4. Square _____ เสร็จสิ้น, ทั้งหมด 5. Taste 6. Weather	8	1. Dance 2. Garden _____ เช่า, ให้เช่า 3. Market _____ เวลา 4. Rent _____ ต้นรำ 5. Short 6. Time
4	1. After 2. Boat _____ หลัง, ภายหลัง 3. Fire _____ เรียนรู้ 4. Learn _____ ไฟ, เพลิงไหม้ 5. Miss 6. Smile	9	1. Cheap 2. Except _____ ความผิดพลาด 3. Left _____ ราคาถูก 4. Movie _____ ส่ง 5. Mistake 6. Send
5	1. Family 2. Employ _____ มืออาหาร 3. Large _____ จ้างงาน 4. Meal _____ สวนสาธารณะ 5. Park 6. Space	10	1. Cook 2. Film _____ เครื่องยนต์ 3. Engine _____ สุขภาพ 4. Inside _____ แข็งแรง 5. Health 6. Strong

ระดับคำศัพท์ 2,000 คำ			
11	1. Brain 2. Crash _____ อารมณ์ 3. Emotion _____ สมอง 4. Knowledge _____ ตั้งเดิม 5. Original 6. Reduce	16	1. Agent 2. Image _____ ตัก 3. Language _____ รูปภาพ 4. Speed _____ ภาษา 5. Vegetable 6. Welcome
12	1. Energy 2. Garage _____ อาวุธ 3. Juice _____ โรงรถ 4. Onion _____ พลังงาน 5. Stream 6. Weapon	17	1. Common 2. Economy _____ ราก 3. Guard _____ ตั้ว 4. Regular _____ ยาม, ผู้คุ้มกัน 5. Root 6. Ticket
13	1. Damage 2. Escape _____ เอาออก 3. Honey _____ ความเสียหาย 4. Jacket _____ น้ำผึ้ง 5. Positive 6. Remove	18	1. Battle 2. Captain _____ วิศวกร 3. Engineer _____ ผอม, บาง 4. Female _____ การสู้รบ 5. Repeat 6. Thin
14	1. Adapt 2. Create _____ หมู่บ้าน 3. Memory _____ ความสำเร็จ 4. Proud _____ ความทรงจำ 5. Success 6. Village	19	1. Apply 2. Cash _____ ประยุกต์, ใช้ให้เป็นประโยชน์ 3. Ignore _____ เงินสด 4. Magazine _____ ไม่สนใจ, ทำพิกเฉย 5. Narrow 6. Shower
15	1. Cheat 2. Guest _____ มีด 3. Knife _____ แหก 4. Pause _____ ความคิดเห็น 5. Opinion 6. University	20	1. Bike 2. Flag _____ ฟันผิว 3. Income _____ แรงงาน 4. Labour _____ สังเกต 5. Observe 6. Surface

ระดับคำศัพท์ 3,000 คำ			
21	1. Aim 2. Coin _____ บริจาค 3. Contrast _____ จุดประสงค์ 4. Donate _____ ช่างยนต์, ช่างเครื่อง 5. Mechanic 6. Relative	26	1. Forecast 2. Host _____ การทำนาย 3. Legend _____ ชั่วคราว 4. Temporary _____ ตำนาน 5. Urban 6. Weave
22	1. Delay 2. Festival _____ ลำช้า 3. Install _____ ข่าวลือ 4. Publish _____ เทศกาล 5. Rumour 6. Virtue	27	1. Behavior 2. Focus _____ พฤติกรรม 3. Manual _____ อนุญาต 4. Permit _____ กฤษฎีกา 5. Stimulate 6. Tactic
23	1. Conclude 2. Flexible _____ แรงดึงดูดของโลก 3. Gravity _____ การสำรวจ 4. Humour _____ ยืดหยุ่น 5. Novel 6. Survey	28	1. Importance 2. Leather _____ สัตยกรรม 3. Negotiate _____ ความสำคัญ 4. Outcome _____ เสร็จต่อรอง 5. Quantity 6. Surgery
24	1. Formula 2. Gesture _____ เส้นทาง 3. Intelligence _____ จักรวาล 4. Route _____ ความเฉลียวฉลาด 5. Universe 6. Whisper	29	1. Candidate 2. Error _____ ความประทับใจ 3. Foster _____ อัตราส่วน 4. Impression _____ ถูกต้องตามกฎหมาย 5. Legitimate 6. Ratio
25	1. Achieve 2. Faculty _____ อาชีพ 3. Incident _____ ชักชวน, ชักจูง 4. Occupation _____ เหตุการณ์ 5. Persuade 6. Random	30	1. Confidence 2. Foundation _____ ความมั่นใจ 3. Heal _____ ปม. กระจุก 4. Knot _____ สวัสดิการ 5. Sustain 6. Welfare

ระดับคำศัพท์ 4,000 คำ			
31	1. Ancestor 2. Destination _____ รูปปั้น (คน) 3. Horizontal _____ บรรพบุรุษ 4. Optimist _____ โบนัส 5. Receipt 6. Statue	36	1. Convenient 2. Integral _____ สะดวก 3. Mineral _____ ภูเขาไฟ 4. Paradox _____ แร่ธาตุ 5. Spontaneous 6. Volcano
32	1. Automobile 2. Essence _____ เลียนแบบ 3. Imitate _____ ลายเซ็น 4. Precious _____ รอยนํ้า 5. Reign 6. Signature	37	1. Ambassador 2. Deaf _____ เรื่องมหัศจรรย์ 3. Impulse _____ หุนหวก 4. Miracle _____ เอกอัครราชทูต 5. Optic 6. Straw
33	1. Canvas 2. Frontier _____ ผ้าใบ 3. Leisure _____ เขตชายแดน 4. Scent _____ เวลาว่าง 5. Surrender 6. Verse	38	1. Ambition 2. Glamour _____ จริงใจ 3. Genius _____ ความทะเยอทะยาน 4. Mist _____ อัจฉริยะ 5. Portray 6. Sincere
34	1. Basin 2. Grill _____ อุปกรณ์ 3. Legacy _____ คุณ, ทวีคูณ 4. Multiply _____ อ่างน้ำ 5. Obstacle 6. Vanish	39	1. Caution 2. Exotic _____ พ่อค้า, แม่ค้า 3. Norm _____ ดีเลิศ, ยอดเยี่ยม 4. Superb _____ มาจากต่างประเทศหรือถิ่นอื่น 5. Vendor 6. Wreck
35	1. Champagne 2. Elegant _____ แป้งทำอาหาร 3. Flour _____ เป็นพิษ 4. Lounge _____ สว่าง 5. Postpone 6. Toxic	40	1. Alternate 2. Digest _____ การจลาจล 3. Expertise _____ ทางเลือก 4. Manuscript _____ ย่ออาหาร 5. Riot 6. Texture

ระดับคำศัพท์ 5,000 คำ			
41	1. Ambiguity 2. Cramp _____ การสับสน, สับสน 3. Dilute _____ ภาวะกำกวม, ความคลุมเครือ 4. Intermediate _____ คบเพลิง, ไฟฉาย 5. Quest 6. Torch	46	1. Blossom 2. Engrave _____ สลัก, จารึก 3. Liquor _____ ดอกไม้บาน, ภาวะที่กำลังบาน 4. Poise _____ สลัก, จารึก 5. Rectangle 6. Void
42	1. Anecdote 2. Cupboard _____ น้ำหอม 3. Howl _____ สลับ, สับเปลี่ยน 4. Perfume _____ สนิม 5. Rust 6. Shuffle	47	1. Cannon 2. Farewell _____ กระเป๋าใส่เงินขนาดเล็ก 3. Purse _____ ปืนใหญ่ 4. Solemn _____ ผู้เสียผ้า 5. Sprout 6. Wardrobe
43	1. Aviation 2. Durable _____ โปรงแสง, โปรงใส 3. Litigate _____ เครื่องปรุงรส 4. Reunion _____ ทนทาน 5. Seasoning 6. Transparent	48	1. Botany 2. Dessert _____ อิจฉา 3. Expanse _____ ของหวาน 4. Intercept _____ สิ่งที่ขยออก, การขย 5. Jealous 6. Nuisance
44	1. Compost 2. Fabulous _____ เรือดำน้ำ 3. Lapse _____ ปรับปรุงใหม่ 4. Renovate _____ เป็นระเบียบเรียบร้อย 5. Submarine 6. Tidy	49	1. Aquarium 2. Converge _____ ตู้ปลา, พิพิธภัณฑสถาน 3. Hemisphere _____ การสังเคราะห์ 4. Infuse _____ บรรจุกัน 5. Mystic 6. Synthetic
45	1. Applaud 2. Ecology _____ สุนัขจิ้งจอก 3. Handkerchief _____ ระบบนิเวศน์ 4. Potent _____ ปรบมือ 5. Ratify 6. Vacuum	50	1. Cassette 2. Diagnostic _____ กิดขวาง 3. Hinder _____ บรรทัดฐาน 4. Motif _____ พนักงานบริการบนเครื่องบิน 5. Proximity 6. Steward

APPENDIX B

VLSS Questionnaire (English Version)

**Questionnaire on the Use of Vocabulary Learning Strategies
Of First Year High Vocational Students
In Krabi Province**

The main purpose of this questionnaire is to explore the use of vocabulary learning strategies of high vocational students in Krabi Province. This information DO NOT affect your school record.

This questionnaire is divided into three parts as follow:

Part 1: General Information

Part 2: Students' vocabulary learning strategies use

Part 1: General Information

Instruction: Please fill your information or mark a “/” in the space.

General Information

Sex: Female Male

E-mail (If possible):

College

Branch

- | | |
|---|--|
| <input type="checkbox"/> Mechanical Technology | <input type="checkbox"/> Tourism and Hospitality |
| <input type="checkbox"/> Mechanical Tools | <input type="checkbox"/> Accounting |
| <input type="checkbox"/> Electrical Power | |
| <input type="checkbox"/> Electronics Technology | |
| <input type="checkbox"/> Information and Technology | |

Your English Grade point average in 1/2558 is

- 4 3-3.5 2-2.5 1-1.5 0

Have you ever learned with foreigner teacher?

- Yes year(s)
- Never

Have you ever go to the country that use English in the communication?

- Yes Never

If yes please identify

Country Name: _____

Period of time _____

for

- study in _____
- internship
- exchange study programe
- English Training
- attend the Work and Travel programe
- travel
- other (please identify) _____

Part 2: The Vocabulary Learning Strategies

Instruction: please mark “/” in the corresponding space. The rating scale are ranking from 4 to 0

4 = Always use

3 = Usually use

2 = Often use

1 = Sometimes use

0 = Never or almost never use

No.	Vocabulary Learning Strategies	Level of Use				
		4 Always	3 Usually	2 Often	1 Sometimes	0 Never or almost never
Determination Strategies						
1.	Analyze part of speech such as verb, noun, and adjective.					
2.	Analyze affixes and roots					
3.	Guess word meaning from textual context					
4.	Analyze any available pictures or gestures					
5.	Use flash cards					
6.	Use an English-English dictionary					
7.	Use an English-Thai dictionary					
8.	Use a Thai-English dictionary					
Social strategies						
9.	Ask teachers for an L1 translation					
10.	Ask teachers to describe a similar meaning or provide a synonym of the word.					

No.	Vocabulary Learning Strategies	Level of Use				
		4 Always	3 Usually	2 Often	1 Sometimes	0 Never or almost never
11.	Ask a teacher for a sentence including the word					
12.	Ask classmates for meaning					
13.	Discover new meanings through group work activity					
14.	Interact with native speakers					
Memory strategies						
15.	Study words with pictures					
16.	Connect words with a personal experience					
17.	Make a group of words by topic					
18.	Say words aloud when studying					
19.	Spell words aloud when studying					
20.	Learn the words of an idiom					
21.	Connect the word with its synonyms or antonyms					
22.	Associate the word with other words you have learned					
23.	Stick the word and its meaning in the place where it can be obviously seen.					
24.	Remember words by underlining initial letter of the words					
25.	Use physical action when studying words. For example, you walk when you remember the word "walk"					

No.	Vocabulary Learning Strategies	Level of Use				
		4 Always	3 Usually	2 Often	1 Sometimes	0 Never or almost never
Cognitive Strategies						
26.	Learn words through verbal repetition					
27.	Learn words through written repetition					
28.	Keep a vocabulary notebook everywhere you go					
29.	Listen to a tape of word list					
30.	Take notes of newly learned words in class					
31.	Review words by reading the vocabulary section in text book					
Metacognitive						
32.	Listen to and watch English media for example movies, songs, internet, etc.					
33.	Read English media for example cartoon books, magazines, novels, website etc.					
34.	Translate the word from Thai to English					
35.	Translate the word from English to Thai					
36.	Play vocabulary games					
37.	Play online games					
38.	Try to speak or describe things in English					
39.	Practice by doing vocabulary exercise					
40.	If there is any vocabulary learning strategy apart from the item 1-39, please specify					

APPENDIX C

Questionnaire (Thai Version)

แบบสอบถามการใช้กลยุทธ์การเรียนรู้คำศัพท์ภาษาอังกฤษ

ของนักศึกษาประกาศนียบัตรวิชาชีพชั้นสูง ชั้นปีที่ 1

วิทยาลัยอาชีวศึกษาในจังหวัดกระบี่

คำชี้แจง แบบสอบถามฉบับนี้จัดทำขึ้นเพื่อศึกษาการใช้กลยุทธ์การเรียนรู้คำศัพท์ภาษาอังกฤษของนักศึกษาในวิทยาลัยอาชีวศึกษาในจังหวัดกระบี่ ข้อมูลที่ได้จะเก็บไว้เป็นความลับและไม่ มีผลต่อคะแนนและผลการเรียนของนักศึกษา

แบบสอบถามแบ่งออกเป็น 2 ตอน ดังนี้

ตอนที่ 1 ข้อมูลทั่วไป

ตอนที่ 2 กลยุทธ์การเรียนรู้คำศัพท์ภาษาอังกฤษ

ตอนที่ 1: ข้อมูลทั่วไป

คำชี้แจง: กรุณากรอกข้อมูล หรือใส่เครื่องหมาย ✓ ในช่องว่าง ที่ตรงกับความเป็นจริงของ นักศึกษามากที่สุด

ข้อมูลส่วนตัว

เพศ: หญิง ชาย

อีเมลล์(ถ้าสะดวก):

วิทยาลัย.....

สาขาวิชา

- | | |
|--|--|
| <input type="checkbox"/> ช่างยนต์ | <input type="checkbox"/> การจัดการการท่องเที่ยวและบริการ |
| <input type="checkbox"/> เครื่องมือกล | <input type="checkbox"/> การบัญชี |
| <input type="checkbox"/> ไฟฟ้ากำลัง | |
| <input type="checkbox"/> อิเลคทรอนิกส์ | |
| <input type="checkbox"/> เทคโนโลยีสารสนเทศ | |

เกรดโดยเฉลี่ยของทุกรายวิชาภาษาอังกฤษในภาคเรียนที่ 1/2558 ของนักศึกษาคือ

- 4 3-3.5 2-2.5 1-1.5 0

นักศึกษาเคยเรียนภาษาอังกฤษกับครูผู้สอนชาวต่างชาติหรือไม่

- เคย เป็นเวลา..... ไม่เคย

นักศึกษาเคยไปประเทศที่ต้องใช้ภาษาอังกฤษในการสื่อสารหรือไม่

- เคย ไม่เคย

หากเคยไป โปรดระบุ

ประเทศ _____

ระยะเวลา _____

วัตถุประสงค์ ศึกษาต่อระดับ _____

ฝึกงาน

นักศึกษาแลกเปลี่ยน

ฝึกอบรมภาษาอังกฤษ

เข้าร่วมโครงการ Work and Travel

ท่องเที่ยว

อื่นๆ (โปรดระบุ) _____

ส่วนที่ 2 กลยุทธ์การเรียนรู้คำศัพท์ภาษาอังกฤษ

คำชี้แจง: โปรดทำเครื่องหมาย ลงในช่องที่ตรงกับระดับการใช้กลยุทธ์การเรียนรู้คำศัพท์ของนักศึกษา

ระดับการใช้ (5-1) ดังนี้

5 = บ่อยที่สุดหรือสม่ำเสมอ

4 = บ่อย

3 = บางครั้ง

2 = นานๆครั้ง

1 = ไม่เคย หรือแทบไม่เคย

ข้อ ที่	กลยุทธ์การเรียนรู้คำศัพท์ ภาษาอังกฤษ	ระดับการใช้กลยุทธ์				
		5 บ่อยที่สุดหรือ สม่ำเสมอ	4 บ่อย	3 บาง ครั้ง	2 นานๆครั้ง	1 ไม่เคย หรือแทบ ไม่เคย
กลวิธีการหาความหมายด้วยตนเอง-Determination Strategies						
1.	วิเคราะห์ชนิดของของคำ (part of speech) เช่น คำกริยา คำนาม หรือคำวิเศษณ์					
2.	วิเคราะห์การเติมหน่วยคำหน้า (prefix) หน่วยคำหลัง (suffix) และรากศัพท์ (root) เพื่อเดาความหมายของคำศัพท์					
3.	เดาความหมายของคำศัพท์จากการดูบริบท					
4.	วิเคราะห์ท่าทางหรือรูปภาพที่เห็น					

ข้อ ที่	กลยุทธ์การเรียนรู้คำศัพท์ ภาษาอังกฤษ	ระดับการใช้กลยุทธ์				
		5 บ่อยที่สุดหรือ สม่ำเสมอ	4 บ่อย	3 บางครั้ง	2 นานๆครั้ง	1 ไม่เคย หรือแทบ ไม่เคย
5.	ใช้บัตรคำศัพท์					
6.	ใช้พจนานุกรมภาษาอังกฤษ- ภาษาอังกฤษ					
7.	ใช้พจนานุกรมภาษาอังกฤษ- ภาษาไทย					
8.	ใช้พจนานุกรมภาษาไทย- ภาษาอังกฤษ					
Social strategies-กลวิธีทางสังคม						
9.	ให้ครูแปลความหมายของคำศัพท์ให้					
10.	ให้ครูอธิบายคำเหมือนของคำศัพท์ นั้น					
11.	ให้ครูยกตัวอย่างประโยคที่มีคำศัพท์ นั้นรวมอยู่ด้วย					
12.	ถามความหมายคำศัพท์จากเพื่อน ร่วมห้อง					
13.	ทำงานเป็นกลุ่มเพื่อหาความหมาย ของคำศัพท์					
14.	พูดคุยกับเจ้าของภาษา					
Memory strategies-กลวิธีจำ						
15.	เรียนรู้คำศัพท์ด้วยรูปภาพ					
16.	เชื่อมโยงคำศัพท์กับประสบการณ์ ส่วนตัว					

ข้อ ที่	กลยุทธ์การเรียนรู้คำศัพท์ ภาษาอังกฤษ	ระดับการใช้กลยุทธ์				
		5 บ่อยที่สุดหรือ สม่ำเสมอ	4 บ่อย	3 บางครั้ง	2 นานๆครั้ง	1 ไม่เคย หรือแทบ ไม่เคย
17.	จัดกลุ่มคำศัพท์เป็นหมวดหมู่ตาม หัวข้อ					
18.	พูดออกเสียงคำศัพท์ต่างๆเมื่อเรียนรู้ คำศัพท์					
19.	สะกดคำศัพท์ต่างๆเมื่อเรียนรู้คำศัพท์					
20.	เรียนคำศัพท์จากสำนวน ภาษาอังกฤษ					
21.	เชื่อมโยงคำศัพท์กับคำที่มี ความหมายเหมือน หรือ คำที่มี ความหมายตรงกันข้าม					
22.	เชื่อมโยงคำศัพท์กับคำศัพท์คำอื่นๆ ที่เรียนมาแล้ว					
23.	ติดคำศัพท์พร้อมความหมายไว้ใน สถานที่ที่สามารถมองเห็นได้ชัด					
24.	จำคำศัพท์โดยการขีดเส้นใต้อักษร ตัวแรก					
25.	ใช้การแสดงท่าทางประกอบใน ขณะที่กำลังเรียนรู้คำศัพท์ เช่น เดิน ไปพร้อมกับการจำคำศัพท์ “walk”					
Cognitive Strategies กลวิธีเชิงพุทธิปัญญา						
26.	พูดคำศัพท์ซ้ำๆ					
27.	เขียนคำศัพท์ซ้ำๆ					
28.	พกสมุดคำศัพท์ติดตัวไว้ตลอด					
29.	ฟังเพลงที่เกี่ยวกับคำศัพท์					

ข้อ ที่	กลยุทธ์การเรียนรู้คำศัพท์ ภาษาอังกฤษ	ระดับการใช้กลยุทธ์				
		5 บ่อยที่สุดหรือ สม่ำเสมอ	4 บ่อย	3 บางครั้ง	2 นานๆครั้ง	1 ไม่เคย หรือแทบ ไม่เคย
30.	จดคำศัพท์ใหม่ที่ได้เรียนรู้ใน ห้องเรียนลงในสมุดคำศัพท์					
31.	อ่านส่วนที่อธิบายคำศัพท์ในหนังสือ เรียน					
Metacognitive - กลวิธีพหุปัญญา						
32.	ฟังและดูสื่อภาษาอังกฤษ เช่น เพลง ภาพยนตร์ อินเทอร์เน็ต					
33.	อ่านสื่อภาษาอังกฤษ เช่น หนังสือ การ์ตูน นิตยสาร นิยาย เว็บไซต์					
34.	แปลคำศัพท์จากภาษาไทยเป็น ภาษาอังกฤษ					
35.	แปลคำศัพท์จากภาษาอังกฤษเป็น ภาษาไทย					
36.	เล่นเกมศัพท์					
37.	เล่นเกมออนไลน์					
38.	พยายามพูดหรืออธิบายสิ่งต่างๆเป็น ภาษาอังกฤษ					
39.	ฝึกทำแบบฝึกหัดคำศัพท์					
40.	นอกเหนือจากกลยุทธ์ข้อ 1-39 นักศึกษาใช้กลยุทธ์การเรียนรู้คำศัพท์อื่นๆ ได้อีกบ้าง โปรดระบุ					

APPENDIX D
Interview Questions List (English-Thai Version)

Interview Questions of the Vocabulary Learning Strategies Use of First-year Vocational Students

Name _____

Class _____

No.	Questions
1.	Do you like studying English? and Why? นักศึกษาชอบเรียนภาษาอังกฤษหรือไม่เพราะเหตุใด
2.	Do you think learning English vocabulary help you in learning English language and how? นักศึกษาคิดว่าการเรียนรู้คำศัพท์มีประโยชน์ต่อการเรียนภาษาอังกฤษของนักศึกษาหรือไม่ อย่างไร
3.	How much you give the priority in learning vocabulary? and Why? นักศึกษาให้ความสำคัญกับการเรียนรู้คำศัพท์มากน้อยเพียงใด เพราะอะไร
4.	What vocabulary learning strategies that make you remember the vocabulary faster and retain it longer and exactly. When you use it? นักศึกษาคิดว่ากลยุทธ์การเรียนรู้คำศัพท์แบบใดที่ใช้แล้วทำให้จดจำคำศัพท์นั้นได้รวดเร็ว จดจำได้นานและแม่นยำที่สุด นักศึกษาใช้กลยุทธ์ดังกล่าวเมื่อใด

PAPER

Vocational Students' Use of Vocabulary Learning Strategies

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Vocational Students' Use of Vocabulary Learning Strategies

การใช้กลยุทธ์การเรียนรู้คำศัพท์ของนักศึกษาอาชีวศึกษา

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ABSTRACT

The present study aimed to investigate vocabulary learning strategies (VLSs) employed by vocational students. The participants of this study were 242 first-year high vocational certificate students studying in three fields: engineering, accounting, and hotel and tourism from five government vocational colleges in Krabi Province, Thailand. A questionnaire and an individual semi-structure interview were used to elicit the frequency of VLSs use. The results of this study revealed that among five strategic categories (determination, social, memory, cognitive and meta-cognitive), social strategies were ranked as the most frequently used. The participants employed strategies from all five categories at the frequency level of "sometimes". In addition, VLSs use varied based on a participant's fields of study (Sig. at $P < 0.05$, $P < 0.01$).

Keywords: vocabulary learning strategies, vocational students, AEC, fields of study

งานวิจัยนี้มีวัตถุประสงค์เพื่อศึกษาการใช้กลยุทธ์การเรียนรู้คำศัพท์ของนักศึกษาอาชีวศึกษา กลุ่มตัวอย่างคือนักศึกษาประกาศนียบัตรวิชาชีพชั้นสูง ชั้นปีที่ 1 จำนวน 242 คน ใน 3 สาขาวิชาคือ สาขาวิชาวิศวกรรมศาสตร์ สาขาวิชาบัญชี และสาขาวิชาการโรงแรมและการท่องเที่ยวในวิทยาลัยอาชีวศึกษา 5 แห่งในจังหวัดกระบี่ เครื่องมือที่ใช้ในการเก็บข้อมูลคือแบบสอบถามการใช้กลยุทธ์การเรียนรู้คำศัพท์ และแบบสัมภาษณ์กึ่งโครงสร้าง ผลการวิจัยพบว่า จากกลยุทธ์การเรียนรู้คำศัพท์ทั้งห้ารูปแบบ (กลวิธีหาคำความหมายด้วยตัวเอง, กลวิธีทางสังคม, กลวิธีการจำ, กลวิธีเชิงพุทธิปัญญาและกลวิธีหุปัญญา) นักศึกษาใช้กลวิธีทางสังคมมากที่สุด กลุ่มตัวอย่างใช้กลยุทธ์การเรียนรู้คำศัพท์หลักทั้งห้าประเภทในระดับความถี่บางครั้ง นอกจากนี้การใช้กลยุทธ์การเรียนรู้คำศัพท์ของนักศึกษาสามสาขาวิชามีความแตกต่างกันอย่างมีนัยสำคัญ ($P < 0.05$, $P < 0.01$).

INTRODUCTION

Vocabulary learning has long been highlighted as critical in learning languages (Atasheneh & Naeimi 2015; Behbahani, 2016; Chon, Shin & Lee, 2012; Nation, 2001; Thornbury, 2002). Wilkins (1972) stated that "without grammar very little can be conveyed, without vocabulary nothing can be conveyed" (p. 111). In addition, insufficient vocabulary knowledge will negatively impact the development of students' skills in reading, writing, listening and speaking (Alhaysony, 2012; Hu & Nation, 2000; Liu, 2011). Therefore, in order to improve vocabulary acquisition, students need to apply effective vocabulary learning strategies (Nation, 2001; Nirattisai & Chiramanee, 2014; Teng, 2015; Walum & Charumanee, 2014).

Vocabulary learning strategies (VLSs) are defined as a set of actions, behaviors or techniques that learners use to help them find out the meaning of new or unknown words, to retain those words, and to use them in oral or written communication (Cameron, 2001; Intaraprasert, 2004; O'Malley & Chamot, 1990; Schmitt, 1997; Takač, 2008). The VLSs have been classified by different scholars (Gu & Johnson 1996; Nation, 2001; Oxford, 1990; Schmitt, 1997). Schmitt's taxonomy (1997) is one of the VLSs classifications that is widely-known and widely accepted among researchers (Nirattisai & Chiramanee, 2014). For this reason, this current study was based on Schmitt's classification (1997) in developing the instruments.

Schmitt (1997) proposed five sub-categories of VLSs: determination strategies, social strategies, memory strategies, cognitive strategies and meta-cognitive strategies. The first, determination strategies, consists of the strategies that learners have to determine the meaning of the words without interaction with others; whereas, social strategies are ways that learners use to find the word's meaning by interacting with others. Memory strategies refer to the strategies in which students associate new words with previous knowledge. Cognitive strategies are similar to memory strategies; they include repetition and using mechanical means. Lastly, metacognitive strategies involve the strategies that learners use to control and evaluate their own learning.

Schmitt (1997) points out that many learners use strategies to facilitate acquiring vocabulary. According to Gu (2010), VLSs can be used by foreign language learners as a tool for deciding not only how to learn, but also what to study. Nation (2001) asserts that by using VLSs, learners can acquire a large and rich vocabulary. Gu and Johnson (1996) concluded that learners equipped with a range of VLSs can deal with new or unknown words much more efficiently than those with insufficient VLSs knowledge.

As discussed above, VLSs play a critical role in language learning by helping learners expand their vocabulary. Due to the importance of the VLSs, many studies on VLSs use have been conducted. Those studies have focused on students' use of VLSs at the high school level (Walum & Charumanee, 2014), the vocational level (Teng, 2015) and the university level (Asgari & Mustapha, 2011; Boonkongsaen & Intaraprasert, 2014; Kalajahi & Pourshahian, 2012; Komol & Sripetpun, 2011; Nirattisai & Chiramanee, 2014; Saengpakdeejit, 2014; Siriwan, 2007; Suppasetserree & Saitakham, 2008; Wanpen, Sonkoontod & Nonkukhetkhong, 2013). The aforementioned studies examined students' VLSs use, and relationship between VLSs use and vocabulary knowledge.

With regard to VLSs use, Boonkongsaen (2012) points out that a factor affecting VLSs use is students' fields of study. Some research revealed a correlation between students' fields of study and their VLSs use (Bernardo & Gonzales, 2009; Boonkongsaen & Intaraprasert, 2014; Tsai & Chang, 2009; Siriwan, 2007). In Thailand, vocational students need to become more proficient in English to cope with the international work opportunities for the AEC labor market (Ngmsa-ard, 2012).

However, the English proficiency of vocational students remains weak (Saraithong & Chancharoenchai, 2012). Yomyao and Khammul's study (2012) revealed that vocational students had low scores in vocabulary.

It is, therefore, worthwhile to explore VLSs use of vocational students, studying in the fields of professions under the AEC agreements. The results of this study would add to the literature on VLSs use by vocational students. Additionally, the results could be beneficial to both vocational students and teachers. An understanding of the VLSs employed by vocational students would not only enable students to be aware of the VLSs they use, it would also provide valuable guidelines for language instructors to teach VLSs that are suitable for students' learning styles.

Research Questions

The purpose of this study was to explore vocational students' use of VLSs and the relationship between their choices and students' fields of study. The research questions were:

1. What kind of VLSs do vocational students employ?
2. Are there any variations of VLSs use among vocational students according to the students' fields of study? If so, what are the main patterns of variation?

RESEARCH METHODOLOGY

Participants

The participants of this study were first year high vocational certificate students enrolling in five government vocational colleges in Krabi province in the second semester of the academic year 2015. The participants were studying engineering, accounting, and hotel and tourism. Within the engineering field, 127 students were majoring in Mechanical Tools, Mechanical Technology, Information and Technology, Electrical Power, and Electronics Technology. Forty-one students were majoring in accounting and 74 students in Tourism and Hospitality.

Instruments

There were two main instruments employed in this study.

1. Vocabulary Learning Strategies Questionnaire

A questionnaire with a five-point Likert scale was used as the main instrument. The rating scales were ranked from (5) *always use* to (1) *never or almost never use*. The 39 items were categorized based on Schmitt's taxonomy (1997). They were divided into five main VLSs categories: items 1-8 for determination strategies, items 9-14 for social strategies, items 15-25 for memory

strategies, items 26-31 for cognitive and items 32-39 for meta-cognitive strategies. The questionnaire was adapted from that of Nirattisai (2014), Thavonpon (2012) and Walum (2014). Three experts in the field of TEFL reviewed the content validity of the questionnaire. A pilot study was conducted in January, 2016 with 34 first year high vocational certificate students majoring in computer business at Krabi Technical College to ensure the reliability of the questionnaire. Using Kuder-Richardson formula 20, the reliability of this questionnaire was 0.917 indicating that the items in the questionnaire were highly reliable.

2. Semi-Structured Interview

The individual semi-structure interview was used to elicit detailed information about participants' attitudes towards English and the VLSs employed by the participants. Each of the ten volunteer participants was interviewed for 15-20 minutes. The interview was audio-recorded. The researcher also took notes during the interviews.

Data Collection

The data were collected during January and February, 2016. Two hundred and forty-two first year high vocational certificate students out of the 298 (81.20%) completed the questionnaires. In addition, ten volunteer participants, four in engineering, three in accounting, and three in hotel and tourism were interviewed using Thai in order to avoid the misunderstanding between the researcher and the interviewees.

Data Analysis

Statistical Analysis

Descriptive statistics was used to compute mean scores and standard deviations (S.D.) of the VLSs data. The interpretation of the use of VLSs was applied from Srisa-ard (2002). The mean scores of the VLSs were interpreted as follows:

4.21 – 5.00 = Always used strategies,

3.41 – 4.20 = Frequently used strategies,

2.61 – 3.40 = Sometimes used strategies,

1.81 – 2.60 = Seldom used strategies,

1.00 – 1.80 = Almost never used strategies.

In addition, ANOVA was employed to analyze statistically significant differences between VLSs used among three groups of students.

RESULTS

This section reports the results of the students' use of VLSs and variations in students' use according to their fields of study.

1. The vocabulary learning strategies use of vocational students

The frequency levels of students' use of VLSs in each category were reported in Table 1.

Table 1: The frequency of students' use of VLSs based on category

VLSs Category	Mean	S.D.	Frequency Level
Social Strategies	3.35	.60	Sometimes used strategies
Determination Strategies	3.24	.58	
Memory Strategies	3.17	.67	
Meta-cognitive Strategies	3.11	.78	
Cognitive Strategies	2.96	.73	
Overall	3.17	.56	Sometimes

Table 1 summarizes the means of the frequency level of students' use of VLSs in each category

from the highest mean to the lowest. It was found that the overall frequency level of VLSs used by the vocational students was in the range of "sometimes" (mean = 3.17), indicating that students sometimes used vocabulary learning strategies. Among five categories, *social strategies* category was ranked as the highest used strategy (mean = 3.35), followed by *determination strategies* (mean = 3.24), *memory strategies* (mean = 3.17), *meta-cognitive strategies* (mean = 3.11) and *cognitive strategies* (mean = 2.96) respectively.

Upon further examination, the mean scores of the students' use of 39 strategies at different level of use (frequently used, sometimes used, and seldom used strategies) are presented in Table 2 - 3.

Table 2 below shows the frequently used VLSs by the students.

Table 2: The frequently-used vocabulary learning strategies employed by students

No.	Strategies	Mean	Category	Frequency of use
4.	Analyze any available pictures or gestures	3.55	DET	Frequently used strategies
7.	Use an English-Thai dictionary	3.53	DET	
9.	Ask teachers for an L1 translation	3.50	SOC	
12.	Ask classmates for meaning	3.47	SOC	
11.	Ask a teacher for a sentence including the word	3.45	SOC	
3.	Guess word meaning from textual context	3.45	DET	
8.	Use a Thai-English dictionary	3.43	DET	
10.	Ask teachers to describe a similar meaning or provide a synonym of the word	3.43	SOC	
26.	Learn words through verbal repetition	3.43	COG	

As shown in Table 2, nine strategies that students frequently employed were ranked from the highest to the lowest mean. The strategy *analyze any available pictures or gestures* in the determination category was employed with the highest mean score of 3.55, followed by the strategy *use an English-Thai dictionary* in the determination category (mean = 3.53) and the strategy *ask teachers for an L1 translation* in social category (mean = 3.50). In terms of the categories, four strategies were in the determination category (Items 4, 7, 3 and 8), four strategies were in the social category (Items 9, 12, 11 and 10) and only one strategy (item 26) was in the cognitive category.

In the interviews, participants stated that the learning materials and classroom environment were important for their learning. The students explained that their English textbook contained various colored pictures and signs that aroused their interest in learning English in the classroom. As a result, they applied learning materials that the teacher provided in the classroom both inside and outside the classroom. With regard to using a dictionary, they stated that the teacher allowed them to bring any kind of dictionary into the classroom. They felt comfortable learning English vocabulary.

The VLSs sometimes and seldom used by students are shown in Table 3.

Table 3: Sometimes and seldom used vocabulary learning strategies

No.	Strategies	Mean	Category	Frequency of use
32.	Listen to and watch English media for example movies, songs, etc.	3.35	MET	

13.	Discover new meanings through group work activity	3.33	SOC	
35.	Translate the word from English to Thai	3.29	MET	
15.	Study words with pictures	3.28	MEM	
22.	Associate the word with other words you have learned	3.27	MEM	
27.	Learn words through written repetition	3.24	COG	
16.	Connect words with a personal experience	3.23	MEM	
34.	Translate the word from Thai to English	3.23	MET	
19.	Spell words aloud when studying	3.21	MEM	Sometimes Used Strategies
18.	Say words aloud when studying	3.19	MEM	
20.	Learn the words of an idiom	3.17	MEM	
24.	Remember words by underlining initial letter of the words	3.17	MEM	
21.	Connect the word with its synonyms or antonyms	3.14	MEM	
6.	Use an English-English dictionary	3.10	DET	
33.	Read English media for example cartoon books, magazines, novels, website etc.	3.10	MET	
37.	Play online games	3.10	MET	
38.	Try to speak or describe things in English	3.09	MET	
17.	Make a group of words by topic	3.05	MEM	
36.	Play vocabulary games	3.03	MET	
1.	Analyze part of speech such as verb, noun, and adjective.	3.02	DET	
30.	Take notes of newly learned words in class	3.01	COG	
23.	Stick the word and its meaning in the place where it can be obviously seen.	3.00	MEM	
31.	Review words by reading the vocabulary section in textbook.	2.95	COG	
39.	Practice by doing vocabulary exercise	2.95	MET	
2.	Analyze affixes and roots	2.93	DET	
14.	Interact with native speakers	2.91	SOC	
5.	Use flash cards	2.90	DET	
25.	Use physical action when studying words. For example, you walk when you remember the word "walk"	2.90	MEM	
28.	Keep a vocabulary notebook everywhere you go	2.62	COG	
29.	Listen to a tape of word list	2.60	COG	Seldom used strategy

As illustrated in Table 3, 33 strategies were ranked from the highest mean score of *sometimes used* VLSs to the lowest mean score of *seldom used* VLSs. The majority of vocabulary learning strategies (29 items) were sometimes used, while only item 39 in the cognitive category '*listen to a tape of word list*' was seldom used, with the lowest mean value (mean = 2.60). For the strategies that the students sometimes employed, 11 items were in the memory category (Items 15, 22, 16, 19, 18, 20, 24, 21, 17, 13 and 25), eight items belonged to the meta-cognitive category (Items 32, 35, 34, 33, 37, 38, 36 and 39), four strategies were in the determination category (Items 6, 1, 2 and 5), four items were in the cognitive category (Items 30, 31, 28 and 29) and two strategies belonged to the social category (Items 13 and 14).

2. The variations in students' VLSs use according to the fields of study

According to table 4, there was a significant difference in the use of VLSs among vocational students in the three fields of study.

Table 4: Variations in students' strategy use in five categories according to fields of study

VLSs Category	Fields of study						F	Patterns of variation
	Eng. (n = 127)		Acc. (n = 41)		Host (n = 74)			
	\bar{x}	S.D.	\bar{x}	S.D.	\bar{x}	S.D.		
Determination Strategies	3.21	.56	3.26	.63	3.28	.58	.41	
Social Strategies	3.30	.63	3.32	.64	3.44	.52	1.21	
Memory Strategies	3.07	.66	3.22	.69	3.32	.65	3.37*	Host>Acc>Eng.
Cognitive Strategies	2.91	.75	3.00	.80	3.03	.66	.67	
Meta-cognitive Strategies	3.10	.80	3.13	.86	3.13	.69	.05	
Overall	3.11	.58	3.19	.58	3.25	.50	1.65	

Note: * Sig at P < 0.05

(Eng. = Engineering, Acc. = Accounting, Host = Hotel and tourism)

As revealed in Table 4, the results showed that the hotel and tourism students employed VLSs significantly more frequently than accounting and engineering students in the memory strategies. On the contrary, there were no significant differences across these three fields of study

in the use of determination, social, cognitive and meta-cognitive strategies. Interestingly, although the use of strategies in the other four categories did not vary significantly according to students' major fields, the hotel and tourism students reported slightly higher use of all VLSs than engineering and accounting students. In addition, the mean score of social strategy reported by the hotel and tourism students was in the range of "frequently" (mean = 3.44).

The variations in the students' use of total 39 vocabulary learning strategies according to their fields of study were presented in Table 5 below.

Table 5: The significant variations in the students' strategy use according to fields of study

No.	Strategies	Fields of Study						F	Patterns of Variation
		Eng. (n=127)		Acc. (n=41)		Host (n=74)			
		Mean	S.D.	Mean	S.D.	Mean	S.D.		
Determination Strategies									
4.	Analyze any available pictures or gestures	3.46	.85	3.44	.63	3.77	.75	4.03*	Host>Eng >Acc.
Social Strategies									
14.	Interact with native speakers	2.77	1.05	2.83	.92	3.19	.95	4.26*	Host>Acc. >Eng.
Memory Strategies									
18.	Say words aloud when studying	2.99	.93	3.29	.93	3.47	.92	6.58**	Host>Acc. >Eng.
19.	Spell words aloud when studying	3.05	.92	3.34	.88	3.42	.97	4.22*	Host>Acc. >Eng.
Meta-cognitive Strategies									
37.	Play online games	3.29	1.12	3.00	1.14	2.81	1.18	4.31**	Eng>Acc >Host

Note: *Sig at P<0.05, ** Sig at P<0.01

(Eng. = Engineering, Acc. = Accounting, Host = Hotel and tourism)

Table 5 demonstrates significant variations in the use of VLSs according to fields of study. Five out of 39 VLSs had significant differences among the three fields of study. However, the results showed that there were three patterns of variation relating to three fields of study.

The first variation pattern, “Host > Eng. > Acc.” indicates that there was a significantly greater mean of hotel and tourism students than engineering and accounting students ($F = 4.62$, $P < 0.05$). In other words, hotel and tourism students used (item 4) *‘analyze any available pictures or gestures’* strategy (determination category) more frequently than engineering and accounting students.

The second variation pattern was “Host > Acc. > Eng.” indicating that there were significantly greater means of hotel and tourism students than accounting and engineer students. Three strategies that hotel and tourism students employed more frequently than accounting and engineering students were items 14, 18, and 19 *‘interact with native speakers’* ($F = 4.26$, $P < 0.05$), *‘say words aloud when studying’* ($F = 6.58$, $P < 0.01$), *‘spell words aloud when studying’* ($F = 4.22$, $P < 0.05$) respectively.

The third pattern “Eng. > Acc. > Host” shows that there was a significantly ($F = 4.31$, $P < 0.01$) greater mean of engineering students than accounting and hotel and tourism students. The results reported that *‘play online games’* strategy (item 37) had a higher frequency of use by engineering students than accounting and hotel and tourism students.

The results of the interview were in line with the responses from the questionnaires. During the interview, two out of three hotel and tourism students stated that they usually learned vocabulary from native speakers. During the internship, participants had to speak English with native speakers. When they did not understand the words, they asked the native speakers to speak slowly or to explain it again. In contrast, two out of four engineering students pointed out that they were exposed to English within the classroom and when playing games.

For *‘say words aloud when studying’*, and *‘spell words aloud when studying’* strategies, three hotel and tourism students cited that they usually said and spelt the words out loud when they were studying vocabulary, especially when their English teacher taught these strategies in class. After the class ended, the teachers assigned homework. They needed to remember the words, English sentences and their meaning. This was especially true for participants in hotel and tourism. Therefore, these strategies helped them learn and retain those words.

In terms of *‘play online games’*, three out of four engineering students informed that they frequently learned new vocabulary from the online games. They reported that while they were

playing games, they had to follow English instructions. It was a new and different way to acquire English words.

DISCUSSION

This study was limited to exploring VLSs use of first year high vocational certificate students in three fields of study; engineering, accounting and hotel and tourism in Krabi province, Thailand. The difference in using VLSs between males and females was not measured.

The results of this study showed that vocational students employed all five categories at the frequency level of “sometimes”. A possible explanation for this finding may be related to the neglect of explicit teaching and learning of vocabulary (Hedge, 2000; Schmitt, 1997). In Thailand, vocabulary has not received attention as a subject, but is taught as a part of listening, speaking, reading and writing (Nirattisai & Chiramanee, 2014). Therefore, a lack of attention to vocabulary learning and teaching appears to be a key factor affecting students’ use of VLSs (Siriwan, 2007).

The social category was used with the highest mean. The finding of this study was not in line with the results of Komol and Sripetpun’s study (2011) and Nirattisai and Chiramanee’s study (2014) which found that social strategies were the least used by university students. However, students need social support and interaction with others to learn languages (Chang, Weng & Zakharova, 2013). This was in line with the interview session. Seven students reported that their teachers created relaxed classroom atmosphere. Students felt comfortable interacting with others in classroom.

Among the 39 strategies, the strategy ‘*analyze any available pictures or gestures*’ was reported as the most employed VLSs with ‘*listen to a tape of a word list*’ the least employed. The most frequently used strategy of ‘*analyze any available pictures or gestures*’ could be explained in relation to materials that attract students’ attention. According to Copper (as cited in Abebe & Davidson, 2012), pictures aid students to determine the meaning of words. Plass, Chun, Mayer, and Leutner (1998) and Oxford and Crookall (1990) also supported that visuals and verbal modes aided students to learn second language. Furthermore, Shahrokni’s study (2009) suggested that the combination of text and images glossary could help students learn more vocabulary. In this current study, six students reported that there were many pictures and symbols in their English textbooks and learning materials that aroused their interest while they were studying.

Listen to a tape of word list was the least used strategy. This finding was consistent with a study done by Nirattisai and Chiramanee (2014). They found that students rarely employed the ‘*listen to a tape of word list*’ strategy. One explanation of the present result seems to relate to Information and Communication Technology. Many new technologies have been invented to aid

learning acquisition whereas a tape of word list appears to be out-of-date. Larrotta (2011) suggested that teachers provide activities which students can learn words in everyday-life instead of giving them vocabulary lists. In addition, teachers might use more modern technologies in the classroom. In students' interview sessions, six interviewees expressed that their teachers used various kinds of modern teaching and learning materials such as CD, dictionary online, or YouTube.

In relation to the variation in the students' use of VLSs and fields of study, the results showed three patterns of significant variation. Hotel and tourism students used the strategies '*say words aloud when studying*', and '*spell words aloud when studying*' greater than accounting and engineering students. However, engineering students employed the strategy '*play online games*' (meta-cognitive strategy) at a higher frequency than accounting and hotel and tourism students. One possible explanation might be related to the different characteristics of students. According to the studies of Bernardo and Gonzales, (2009), Boonkongsaen and Intaraprasert (2014), Tsai and Chang (2009), students from various fields of study employed different VLSs. The results of those studies also revealed that a field of study is one of the factors affecting students' VLSs use. In this study, hotel and tourism students were more extroverted. Meanwhile, students with engineering background were likely to rely on media or technology.

The exposure to language can be one explanation for the participants' use of the social strategy, '*interact with native speakers*'. Students with more exposure to English tended to have a greater frequency of VLSs use (Nirattisai & Chiramanee, 2014). The hotel and tourism students had to work and interact with foreigners. Furthermore, they had more experiences in learning language outside the classroom, especially while they were trainees. The experiences provided them more opportunities to use and learn more vocabulary than engineering and accounting students. It was consistent with Boonkongsaen and Intaraprasert's study (2014) which concluded that learner who had exposure to English beyond classroom instructions employed VLSs more frequently than learners who had exposure to English only within classroom instructions. In addition, language learning experience had strong effects on students' VLSs use (Boonkongsaen, 2012).

The strategy '*analyze any available pictures or gestures*' was not only the most frequently used by students, but also had a significant difference among three fields of study. The results showed that hotel and tourism students used this strategy more frequently than engineering and accounting students. The difference may be explained with regard to learning materials that the teacher provided students in class. Students in all three fields of study reported that there were many colored pictures in their textbooks. Their teacher also provided interesting learning materials for them in class. This is consistent with the interview results. The hotel and tourism participants stated that they had to learn a lot of English vocabulary, words and phrases, technical terms and

expressions, and symbols in their three English subjects while engineering students had to learn two English subjects. The accounting students described learning only one subject, Basic English. This suggested that hotel and tourism students had more opportunities to learn English through learning materials in classroom than engineering and accounting students.

CONCLUSION

This study aimed to investigate vocational students from varying fields of study in regards to their choice of VLSs. The results showed that, overall, vocational students sometimes used VLSs to learn vocabulary. Moreover, the students tended to rely on social strategies. In addition, there were significant differences of VLSs use among the three fields of study. The results of this study suggest that students should be aware of their VLSs use, realize the importance of VLSs, and know that different kinds of VLSs can be used and applied both inside and outside the classroom. So, they can utilize the VLSs that are appropriate to a specific situation. Moreover, the results indicate that students employed the determination strategy and social strategy more than they did other strategies. In this respect, teachers should teach and encourage students to use a wider range of VLSs both in-class and in self-directed activities, so that students can take more individual responsibility for their own learning.

For future research, it might be worth exploring VLSs employed by other groups of professionals fields of study using more research instruments, for example, class observation and in-depth interviews in order to obtain a deeper understanding of VLSs used by a wider range of vocational students.

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